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The West Virginia MEDICAL JOURNAL

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Disease generally begins that equality which death completes.
—Samuel Johnson.

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HEALTH: A PUBLIC RESPONSIBILITY*

By J. MELVILLE BROUGHTON
Governor of North Carolina

SOCIALIZED medicine as the term is generally understood, presents a sharply dividing question, and whether it will ever become a part of our system of government and medicine is a matter of acrimonious debate. However, this much is certain: medicine with a social point of view is inevitable, alrady partially attained and destined to reshape our whole thinking with respect to the teaching and practicing of medicine in the future.

Reactionaries and some just plain conservatives have been shocked by recent tendencies. They are appalled at the spread of corporate and governmental activities in respect to the practice of medicine and are girding their loins for a last ditch fight against this invasion of one of the oldest and noblest of the professions.

The medical student of tomorrow and indeed of today cannot become qualified wholly in the laboratory, the classroom and the clinic. His profession will inevitably be involved in new social trends and he must in the highest degree be intelligently informd and responsive to these new conditions. The horse-and-buggy doctor has become a subject of literature and reminiscence, and while his type is still the best in the field of medicine, his methods and equipment are of another day. It is quite stirring and appealing to read of intricate operations performed by lamplight and of the highly personal relationship between patient and physician; but the insistent plea of even the most remote sections for adequate and accessible hospital facilities and specializd medical care is bringing to light a new day in the whole field of medicine.

GOVERNMENTAL ACTIVITY

Whatever may be our feelings with respect to the encroachment of the federal government upon the field of medicine, it is an inescapable fact that our government is already a tremendous factor in this field and will be increasingly so in the coming years. In fact, much of this enormous expansion of governmental activity in this direction is inevitable and unobjectionable. For example, the federal government is now operating by far the largest hospital system in world history. This result was approaching even after the last World War, and the results of this present ephocal war will extend this system beyond the range of the imagionation. In my own state, for example, the federal government since this war began has built a number of new military and naval hospitals, some of a general type, which in the aggregate will far exceed the total civilian hospital capacity of the entire state. One general hospital alone has been constructed with three times the bed capacity of our largest civilian hospital. A similar record can be shown in many other states.

No one would challenge the right or the duty of the federal goverment to construct and operate

*Presented at the Commencement Exercises at the Medical College of Virginia, Richmond, September 23, 1944.

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whatever hospitals are necessary for the injured and disabled man and woman who have served the nation in this and previous wars. Inevitably, however, this expansion has enormously increased the requisitioning of doctors from civilian ranks and the development of a tremendously powerful medical influence and concentration in the federal government. While this is definitely a federal responsibility which on the whole is being admirably discharged, it must be the concern of all right-thinking individuals that this great and growing medical establishment, far transcending anything in all history, shall be kept free from political interference and manipulation and likewise free from any attempt to dominate the medical field in its civilian aspects.

MITITARY, NAVAL HOSPITALS APPROVE

Not only in its military and naval hospitals has the government activity assumed unprecedented proportions. There are an increasing number of civilian agencies of government which are engaging in at least modified forms of socialized medicine. For example, I recently visited the scene of a wholly owned government agency in which the hospital and the government-owned community have the services of seven physicians and surgeons, all of whom are on the payroll of this government agency. No other physicians or surgeons are available to the people who reside in this community where everybody works for the government agency. The remote and almost inaccessible location of this particular activity has seemed to justify this particular operation, and a fair study reveals that the job is being well done and the people are well pleased. Furthrmore, in an even more extensive way government supervision, if not control, is being extended to mdicine in the rural areas through the Farm Security Administration and other related agencies and through the TVA and similar authorities or agencies throughout the nation.

In the aggregate, the amount of medical practice already directly carried on by the federal government or under its supervision, if not control, far exceeds the estimate of those who have not made a careful study of this development. In brief, these activities are not something merely to be anticipated or looked forward to with apprehension. They are here; and in enormous proportions. Morever, the results of these activities while not wholly free from criticism, are satisfying an increasingly large number of our citizens and raising in the minds of millions of others the question as to whether this sort of supervision, control and support of medical activities should not be extended.

This is not a recent phenomenon, although it may be conceded that in the era of the New Deal these trends have been greatly accelerated. Those who would label these developments merely as New Deal manifestations of passing importance are lacking in a sense of proportion and perspective. With no thought of indulging in political discussion, it is sufficient to note that even in conservative Old England there is a growing sentiment for a broadly social system of medical practice and hospital care. The so-called "Beveridge Plan" transcends anything that has been proposed thus far in our own country. It is literally and avowedly a program of security, protection and care "from the cradle to the grave." While it is true the Beveridge Plan has not yet been adopted, well informed British statesmen, even of the Tory class, accept it as a certainty that this plan, with some mild modification, will become a part of British policy and practice after the war is over.

Therefore those who are opposed to socialized medicine and all its works must look further than to contemporaneous or recent political developments. They must ponder the fact that all over this earth, including conservative England and our less conservative America, there is a deep-seated and growing human urge and insistence for a program of welfare, security and health available to all people, regardless of financial circumstances.

Statistics are tiring and generally inconclusive, but one is shocked by the figures which reveal the scarcity of doctors and hospital facilities in the remote and rural areas of our land and the unavailability of these services and facilities to millions of people in the low-income bracket. It has been revealed that substantially over four million young men have been rejected for military service in our nation by reason of physical defect. Analysis of these figures discloses that over 25 per cent of these cases, or more than a million men, are prevented from military service by remediable defects, and at least another million would have been capable of military service had they received adequate medical treatment and hospital care in their early years. Thus we have the picture of over two million men — equivalent to one-fifth of the entire armed service — disqualified for military service in the hour of their country's greatest need by reason of defects that would not have existed under a broad program of medical care.

If the analysis should be carried to industrial populations, the picture would no doubt be equally graphic. Shortage of manpower, absenteeism, and other gravely disturbing problems in this critical hour are in a considerable measure due to physical defects of a presently or earlier remedial character. Can America continue to be strong enough for the challenge of war or robust enough for the opportunities of peace upon so large a percentage of physical disability, even among its youngest group of citizens.

STUDYING SOUTH'S HEALTH CONDITIONS

In the state of North Carolina we are making at the present time probably the most comprehensive study of our health and hospital conditions and facilities ever undertaken. The results are quite revealing. Large areas, including frequently many contiguous counties, are without any hospital facilities; a number of counties with fairly large populations have only two or three doctors, and sometimes only one; doctors, while fairly numerous in municipalities, are scarce and getting scarcer in the rural areas. Families living on barely a sufficient amount for the necessities of life find it impossible to incur hospital expense and therefore postpone or forego entirely, for parent and children, hospital treatment of an essential character. While most doctors are quite generous towards the indigent, the average person does not want to accept charity as such and will therefore frequently deny himself and his family necessary medical or hospital treatment.

In brief, if we are to avoid what many consider the evil consequences of socialized medicine under federal sponsorship and control, with fantastic cost and unlimited political manipulation, it is quite apparent that the individual states, cities, communities and counties must be willing to assume their responsibility and plan more progressive programs. Without seeking even to suggest the scope or details of such plan, it may be stated that the ultimate purpose of such a program should be that no person in any state or community should lack adequate hospital care or medical treatment by reason of remoteness, poverty or low income. Nothing short of a program so comprehensive will satisfy the growing social consciousness of our people, and the failure to recognize these deep-seated human emotions and desires will be but an invitation for federally socialized medicine in some of its worst aspects.

The ultimate purpose cannot be achieved overnight, but a start can be made whenever states, cities, counties and communities recognize their responsibility for individual and public health and manifest a determined desire to discharge each responsibility. Among the objectives in the programs of a number of states under consideration or in process at the present time may be listed the following:

(1) Regular, periodic and free examination of all school children, with provision for medical care and hospital treatment when indicated, at public expense in cases where parents are unable to provide such treatment.

(2) A program of medical care and hospital treatment for rural areas wherever studies indicate the need for such additional facilities. This program should be the joint responsibility of the state, the county and the community, with such aid as may be available from foundations, endowments and federal supplements.

(3) The broadcast encouragement to well established organizations of the Blue cross variety, in which individuals upon relatively small payments in advance may obtain assurance of adequate medical care and hospital treatment when needed. The growth of such organizations has been phenomenal, and in many states plans are under consideration for extending such protection virtually to the entire population.

(4) Such health programs are impossible without adequate physicians. Accordingly, no state should practice the doubtful economy of failing to provide for its own youth a sufficient number of medical schools for the training of young men and women in this profession. It is a matter of common knowledge that young men who have to get medical training at distant points are somewhat less likely to return to areas in their own state where they may be badly needed. The constant drift of the highest qualified among the medical profession to metropolitan centers constitutes at least a peril and a problem. A broad program of state and community supported hospitals in rural areas may be one of the answers to this problem.

(5) Any program that is set up should be free from political manipulation and control. Any hospital or health program which is subordinated to politics in respect to selection of administrators, doctors or other personnel, or in connection with the location and scope of hospital or other operations is doomed to failure from the beginning.

(6) The relation of patient and doctor is a personal one. Wisely conceived programs for medi-

cal care and hospital treatment under state and community cooperation are seeking to preserve this relationship.

(7) The relationship of the federal government to such programs should be one of cooperation and not control. It will be an evil day if the processes, and programs of hospital facilities and medical care should ever be dominated by the federal government and operated by any Washington bureau.

(8) Those whose plans are most likely to succeed give full recognition to participation and joint responsibility on the part of the individual.

In whatever plans are contemplated or projected it should never be forgotten that the quality of individual independence and self-reliance in our people is one of the foundations of our greatness as a nation. This quality still survives, though weakened and almost extinguished in cases of too many millions of our citizens by reason of many illadvised governmental gratuities in recent years It must somehow be contrived to furnish a broad program of medical care and hospital treatment without federal control or political domination, free from any stigma that may attach to the words "charity" or "indigency" in respect to such matters and yet available to all men, women and children of all races, without respect to wealth, locality or influence. Upon such program there may well rest the firmest assurance of a growing and a greater America in the new day that is to come with victory and peace.

MEDICINE ON THE MARCH

The art of medicine has refused to stand still. The family doctor—with his bedside manner, his mostrums, his ponderous vocabulary to conceal his perplexities, his downright devotion to duty and sacrifice of self—was once the very epitome of the art of healing. He has been succeeded by the general practitioner, who is a focus to a group of specialists, of which trere are now more than a score, each with what a lawyer would call its own jurisdiction. The physician's office, filled with gadgets and contraptions, has become a combination of consulting room, laboratory and miniature hospital. A number of separate shops for x-ray examinations, chemical tests and pathological check-ups have become necessary adjuncts. . . . . And behind all this is medicine, which, as science and an art, is on the march. Behind medicine stands optics, physics, chemistry, biology, bacteriology. *Wendell Berge, in Journal of Urology.*

TRANSURETHRAL RESECTION*

By C. A. HOFFMAN, M. D.
Huntington, W. Va.

PROBABLY one of the most dramatic operative procedures developed during recent years has been the transurethral removal of obstructive tissue at the bladder neck. This type of prostatic surgery has been publicized by word of mouth and through medical literature, and, in some instances, has been written up at great length in lay magazines. Such ballyhoo has naturally, in the minds of both laymen and medical practitioners, caused confusion as to its true value, and it is the aim of this paper to clarify as much as possible the indications and contraindications for such a procedure.

In oft repeated instances we have seen patients who have been told by the physician who referred them to us that even though they had a huge gland, the urologist could ream out just sufficient tissue to give them a small channel and that it would be a very simple procedure. Transurethral resection of a hypertrophied prostate gland is a simple procedure if one of several complications does not develop, and if the resection is done thoroughly. All tissue which can be safely removed should be excised. The patient who has an incomplete resection usually complains of severe burning on urination, frequency of urination, and tenesmus, — the symptoms causing more discomfort than was present prior to operation.

HISTORY

Attempts to relieve bladder neck obstruction by intraurethral instrumentation dates back over the past hundred years. Guthrie in 1830, Mercier in 1841, and Bottini in 1877 were the pioneers. Bottini's galvanocautery was very popular for many years, but the procedure was discarded because it resulted in severe hemorrhage and high mortality. Young in 1909 dveloped the Young Punch which was an important contribution to intra-urethral surgery, for it permitted visualization, thereby allowing some degree of accuracy in the removal of tissue. Caulk, who in 1920 developed his electric cautery punch, probably offered more to the presentday interest in intra-urethral surgery than any of the early workers.

*Presented before the Staff Conference of the Chesapeake & Ohio Hospital, Huntington, October 19, 1944.

The great majority of operators today use the resectoscope which is a combination of the Stern and Davis resection loop and the McCarthy for-oblique lens. This is connected to an electric diathermy unit which by means of a spark gap current offers a cutting current for resection and a fulgurating current for hemostasis. A few operators use the Braasch-Bumpus-Thompson Punch which is a cold cutting method similar to the Young Punch.

Anatomically we think of the prostate as having an anterior, posterior, median, and two lateral lobes. I have found that comparing the prostate to a doughnut is most satisfactory when discussing a problem of bladder neck obstruction with the patient. I explain the symptoms of the enlarged prostate by showing that the prostate is shaped like a doughnut and since it forms the bladder neck, the patient can readily understand that the hole in the "doughnut" through which the urine passes would be constricted if an enlargement of the "doughnut" developed. This method of explanation is also quite helpful in describing to the patient which part of the prostate is enlarged. He understands more clearly when I illustrate the method of making the "hole of the doughnut" larger by taking many small bites from the inner rim of the "doughnut" by means of the resectoscope.

DIAGNOSIS

Although several radiographic methods have been developed for determining the size of the prostate, I am of the opinion that rectal palpation and cystoscopy are the most dependable means for diagnosing the size, shape, and consistency of the prostate, and the patency of the bladder neck. It must be remembered that the size of the hypertrophied prostate is not in direct degree with the symptoms of obstruction. Often a great degree of hypertrophy of the prostate does not cause symptoms, and again a median bar or small median lobe hypertrophy will cause severe hesitancy, frequency, nocturia, and result in large amounts of residual urine. We must also keep in mind that on rectal palpation the examiner is able to palpate only one section of the prostate, so that even though there are dangers attendant on intra-urethral instrumentation, cystoscopy is indicated as the most desirable method of examination in the vast majority of cases of the enlarged prostate.

The practitioner can, however, by the use of a few simple procedures, offer more sound advice to the patient who is to be referred for urological consultation. After examination of the urine the amount of residual urine, if any, should be determined. This is done by having the patient void, and then passing a soft No. 20 urethral catheter. By passing the catheter the examiner can locate the presence of strictures which is of great help in diagnosis. If the catheter must be inserted some distance past the estimated distance of the urethra, the examiner may suspect a long gland which could be more satisfactorily approached by prostatectomy. There should be no residual urine. However, the presence of residual urine which has been known to run as high as 64 ounces, means that the musculature of the bladder is decompensating and whether it be due to bladder neck obstruction, diverticuli or neurogenic changes, the problem deserves urological consultation.

The other important step which the practioner should do most carefully is rectal palpation of the prostate. Check the size, note whether the gland is normal or enlarged, and if enlarged, the degree of enlargement. Move the gland gently to see whether it is freely movable or whether it is slightly or firmly fixed. Palpate sufficiently high to feel the seminal vesicles. Palpate for consistency, and gently massage, checking the expressed secretion. The obstructive symptoms may be due to a prostatitis which can be diagnosed from the consistency and the expressed secretion. Let me remind you that fixation and firmness are extremely important findings in considering carcinoma of the prostate. You are all familiar with the stony hardness of the advanced carcinoma. The hardness may be due to prostatic calculi which can be verified by the roentgenologist. The shape of the gland is also a factor in determining the type of approach.

PROCEDURE

Since the transurethral resection has become popular there has been a constant controversy among urologists as to which gland should be resected and which should be removed. The opinions of most men have changed with the introduction of devices to facilitate the operation and also because they have become more adept in the work. I know that my own views have greatly changed during the eight years that I have been interested in urological surgery. The first resection that I witnessed took two hours, and now the average resection should never take over forty-five minutes. As I stated before, this shortening of operative time is due to improvement of instruments and to increasing skill of the operator.

Although a few excellent men do resect all of their prostatic hypertrophies, even though it may require more than one operation, I think I can justly say at this time the vast majority of operators approach approximately 90 per cent of their prostatic obstructions by the transurethral route. In my own practice I do approximately twenty transurethral resections to one prostatectomy.

Medial lobe hypertrophy, median bar (which is a fibrosis of the bladder neck probably due to chronic infection of the prostate), lateral lobe hypertrophy (which is moderately long), and carcinoma of the prostate are amenable to resection.

Young's radical perineal operation, which consists of removal of the prostate seminal vesicles and a cuff of the bladder, affords a possible cure in those cases in which an early diagnosis of carcinoma is made or in which carcinoma is strongly suspected. It is rare that a diagnosis of carcinoma is made early. In the more advanced carcinomas of the prostate we do a resection to give a more patent urethra and at the same time a bilateral orchidectomy is performed.

In my opinion prostatectomy should be the procedure of choice in those benign cases in which the hypertrophy is so great that the time required for complete resection would cause more shock than would an enucleation. All of the facilities at our command should be used to reach a decision. The average prostatectomy should not take over thirty minutes.

Transurethral resection has many advantages over prostatectomy. Hospital stay is around seven to ten days, as compared with three or four weeks in cases of enculeation. No large incision is made, a feature which appeals to most patients and barring complications, the procedure is fairly simple. Transurethral resection is a delicate operation and requires unusually careful postoperative attention. Complications are frequent, but the trained operator can recognize these readily and take steps to remedy them. Certainly this is the method of choice unless contraindicated.

CONCLUSIONS

It is important that the general practitioner examine more closely the patient in whom bladder neck obstructions due to prostatic hypertrophy are suspected. He can, by utilizing the facilities at his command, more intelligently decide when urological consultation is indicated. A more studied diagnosis would be of great help to the patient, the urologist and the practitioner.

RECENT ADVANCES IN THE TREATMENT OF PURULENT MENINGITIS*

By W. W. WADDELL, JR., M. D.**
Charlottesville, Va.

We can count ourselves as fortunate in that we have had the opportunity of witnessing the progress of recent medical events. We are still more fortunate in that we can apply many therapeutic advances recently made available to us. Never before have so many notable achievements been made over so short a period of time. These astonishing advances have been both preventive and curative in nature. The period of life expectancy has been very materially lengthened. Certain diseases which were considered as hopeless until the very recent past, are now amenable to therapy. Morbidity and mortality rates in many other conditions have been greatly reduced. Perhaps no one group of diseases has shared more largely in this period of medical renaissance than certain of the purulent types of meningitis. I have chosen this subject because I felt that it would be of general interest and because of the frequency and importance of this group of diseases.

All cases of meningitis described in this report occurred in children under 12 years of age and were treated on the pediatric service at the University of Virginia Hospital.

Before discussing the newer methods of therapy, may I remind you of the unhappy state of affairs that existed prior to the advent of chemotherapy and certain of the newer sera.

Table 1 describes our experience with meningitis of all types over a ten year period before the days of chemotherapy. Included in this table there are forty-five cases of purulent meningitis of varying etiology and nine cases in which the infecting agent was not known. This is certainly not a pleasing picture. All died with the single exception of thirteen cases of meningococcic infection and I wonder just how effective therapy actually was in some of the cases that recovered. It must be admitted that antimeningoccoccic serum administered intraspinally was of itself quite irritating and may well have contributed to the prolonged hospital stay and the

*Presented before the Seventy-Seventh Annual Meeting of the West Virginia State Medical Association, at Wheeling, West Virginia, May 16, 1944.

**From the Department of Pediatrics, University of Virginia Hospital, Charlottesville, Virginia

TABLE 1

MENINGITIS

All Types For Previous Ten Year Period

Type	Number	Lived	Died	Per Cent
Meningococcic	21	13	8	38
Pneumococcic	10		10	100
Influenzal	12		12	100
Tuberculosis	34		34	100
Streptococcic	1		1	100
Staphylococcic	1		1	100
Organism Not Identified	9		9	
Total	88	13	75	

frequency of blockage of the foramina at the base of the brain and the resulting chronic basilar meningitis and hydrocephalus.

TABLE 2

Meningococcic Meningitis
For Previous Ten Year Period

Age	Days Before Adms'n.	Days In Hosp.	Outcome	How Treated	Complications
10 wks.	7	12	Died 19th day	Serum i. s. & cis.	
4 mos.	4	2	Died 6th day	Serum i. s.	
7 mos.	14-	33	Lived	Serum i. s. & cis.	Chr. basilar meningitis
8 mos.	1	4	Died 5th day	Serum i. s.	
17 mos.	2	4	Died 6th day	Serum i. s.	
18 mos.	3-	0	Died 3rd day	Serum i. s.	
21 mos.	4	9	Died 13th day	Serum i. s. & vent	
3 yrs.	1	14	Lived	Serum i. s.	
4 yrs.	3	39	Lived	Serum i. s.	Pyelitis
4 yrs.	5	22	Lived	Serum i. s.	
5 yrs.	2	37	Lived	Serum i. s. & cis.	
5 yrs.	3	19	Lived	Serum i. s.	
6 yrs.	2	2	Died 4th day	Serum i. s.	
8 yrs.	2	19	Lived	Serum i. s.	
9 yrs.	1	22	Lived	Serum i. s.	Urticaria Deafness—not improved
9 yrs.	1	18	Lived	Serum i. s.	
10 yrs.	3	1	Died 4th day	Serum i. s.	
11 yrs.	2	48	Lived	Serum i. s. & cis.	
11 yrs.	16	18	Lived	Serum i. s.	Chr. basilar men.—hopeless
	Av. 4.0	Av. 18			

Table 2 describes the process of these patients from the standpoint of hospitalization, methods of therapy, complications and recovery. You will note the prolonged hospital stay for those cases which recovered. During this time patients were plagued with repeated lumbar punctures and the attending physicians plagued by persistently positive spinal fluid cultures and persistent purulent fluids with a favorable outcome always in doubt.

Particularly discouraging were those cases of meningococcic meningitis occuring in children under 2 years of age. In every clinic the mortality was extremely high. Just how true this was is shown in the next table.

TABLE 3

Meningococcic Meningitis Under Two Years of Age For Previous Ten Year Period

Age	Days at Home	Days Untreated	Result
10 Weeks	7	7	Died
4 months	4	4	Died
7 months	14	14	Lived (Chronic Basilar Menin.
8 months	1	2	Died
10 months	6	6	Lived (Chronic Basilar Menin.
15 months	2	2	Lived
17 months	2	5	Died
18 months	3	3	Died
21 months	4	4	Died

Total Number . . . . . 9 Cases
Mortality 66.6%

In all, there were nine cases in this age group with six deaths occuring in the hospital and we can be very certain that the two leaving the hospital suffering from chronic basilar meningitis subsequently died.

It is very satisfying to contrast this dismal recital with our more recent experiences. For the years 1937 to 1943, inclusive, we have treated fifty-two cases of purulent meningitis in children. I shall out line the methods of therapy employed in these various groups and our results.

During this period of time we have treated twenty-two cases of meningococcic meningitis.

TABLE 4

Present Treatment of Meningococcic Meningitis

1. Bed rest; sedatives if necessary.
2. Diagnostic lumber puncture.
   a. Pressure
   b. Cell count.
   c. Protein, sugar and chloride.
   d. Smear and culture.
   e. Wasserman and colloidal gold curve.
3. Blood culture—important for diagnostic purposes.
4. Infusion (intravenous, intramedullary)
   a. Glucose and saline or
   b. Sodium lactate.

5. Sulfadiazine.
   a. Sodium sulfadiazine intravenously. Give 1/3 gr. per lb. of body weight. Repeat in 8 to 12 hours.
   b. Sulfadiazine started by mouth when patient is able to take it. Give one grain per lb. of body weight daily. Divide in six doses giving it every four hours.
6. Daily blood sulfadiazine levels. The optimal level varies between 8 and 12 mg. per hundred cubic centimeters. Daily urines and the blood hemoglobin and white count should be done every other day.

TABLE 5

Meningococcic Meningitis for Period of 1937-1943

Age	Days Before Adms'n.	Hosp. Days	Outcome	Treatment	Complications
4 mos.	5	5	Died	Serum i. v. & sulfonilamide	
5 yrs.	3	21	Well	Sulfonilamide transfusions	
9 yrs.	2	16	Well	Serum i. s & i. v., sulfonilamide	
6 wks.	2	12	Well	Sulfadiazine - transfusions	
6 yrs.	2	14	Well	Sulfonilamide serum i. v.	
11 yrs.	2	14	Well	Sulfanilamide	
23 mos.	2	13	Well	Sulfadiazine	
3 yrs.	3	5 hrs.	Died	None	Waterhouse-Friderichsen
7 yrs.	2	26	Well	Sulfadiazine	
5 yrs.	3	11	Well	Sulfadiazine	
4 yrs.	3	9	Well	Sulfadiazine	
7 yrs.	3	9	Well	Sulfadiazine	
22 mos.	2	9	Well	Sulfadiazine	
2½ yrs.	3	11	Well	Sulfadiazine	
4 yrs.	2	17	Well	Sulfadiazine	Deafness
4 yrs.	2	9	Well	Sulfadiazine	
6 mos.	5	24	Well	Sulfadiazine	
5 yrs.	2	30	Well	Sulfadiazine	
4 yrs.	2	17	Well	Sulfadiazine	
18 mos.	2	12	Well	Sulfadiazine	
5 yrs.	2	14	Well	Sulfadiazine	
6 yrs.	2	12	Well	Sulfadiazine	
	2.5	13.9	9%		

7. No spinal drainage unless indicated.
   a. Failure of clinical improvement.
   b. Evidence of increased or increasing intracranial pressure.
8. Spinal puncture before discharge to confirm clinical cure.
9. Diet as tolerated.
10. Nursing care.
11. Supportive measures.
   a. Blood transfusions.
   b. Infusions.
   c. Stimulants or sedatives.

Table 4 describes the general outline of therapy now employed in meningococcic meningitis in our clinic.

Table 5 describes this resies from the standpoint of age, hospital stay, type of therapy, complications and results. You will note that there were only two deaths. In one instance treatment was not begun until the sixth day of illness and the age of the patient was four months. The second death cannot be considered as a therapeutic failure in that the child presented the usual picture of the Waterhouse-Frideriksen syndrome and death occurred five hours after admission to the hospital. Only four of this series received serum and in only one instance was serum given intraspinally. I am satisfied that serum administered intraspinally has no place in the treatment of this disease. We have learned the importance of staying out of the spinal canal.

TABLE 6

Meningococcic Meningitis Cases Under Two Years of Age for Period of 1937-1943

Age	Days at Home	Hosp. Days	Treatment	Results
4 mo.	5	5	Serum i. v. Sulfanilamide	Died
6 wks.	2	12	Sulfadiazine Bl. transfusion	Well
2 mo.	2	13	Sulfadiazine	Well
2 mo.	3	9	Sulfadiazine	Well
6 mo.	5	24	Sulfadiazine	Well
18 mo.	2	12	Sulfadiazine	Well
Total Cases			6	(9)
Mortality			16%	(66.6%)

Five of the patients, shown in table 6, were infants under one year of age. It is astonishing that only one death occurred in this age group and in this instance treatment was delayed until the sixth day of illness. This is a striking tribute to the efficacy of chemotherapy.

Since the advent of chemotherapy and type specific antipneumococcic serum therapy we have treated eleven cases of pneumococcic meningitis. Three of these were treated with chemotherapy alone and eight received sulfa drugs tnd type specific antiserum. Three of the eleven cases survived, a mortality rate of 72 per cent. Mortality

rates of different recently recorded series of pneumococcic meningitis are quite variable. Hodes, Smith and Ickes recently recorded sixty cases with a mortality rate of 42 per cent. This is a far cry from the old rate of 99 per cent and certainly much better than our mortality rate of 72 per cent. I would not be inclined at present to depend on sulfanamides alone in the treatment of pneumococcic meningitis but would prefer a combination of sulfadiazine intravenously and orally along with type specific antipneumococcic serum intravenously. I believe this combination offers the best chance of survival. I say this because of the fact that we cannot report a single recovery from chemotherapy alone. I might say that four of the deaths in this series were in children under eight months of age and the three cases to recover were all in children, three years, eight years and ten years of age. One of the patients in this series, a colored girl, was rather unique. She developed pneumococcic meningitis twice in one year. The infecting agent was type XIV in the first illness and type XXIX in the second. In both instances she developed hemiplegira of the right side. This child did not survive her second illness.

TABLE 7

Meningococcic Meningitis
For Previous Ten Year Period

Age	0-1	1-2	3	4	5	6	7	8	9	10	11	12
Lived	2	1	1	2	2	0	0	1	2	0	2	0
Died	3	3	0	0	0	1	0	0	0	1	0	0

Mortality Under Two Years 66.6%
Mortality Over Two Years 16.6%
Mortality for All Ages 38.1%

Meningococcic Meningitis for Period of 1937-1943

Age	0-1	1-2	3	4	5	6	7	8	9	10	11	12
Lived	3	2	1	4	4	2	2	0	1	0	1	0
Died	1	0	1	0	0	0	0	0	0	0	0	0

Mortality Under Two Years 16.6%
Mortality Over Two Years 6.2%
Mortality for All Ages 9%

Table 7 summarizes and compares results in older and newer methods of therapy.

TABLE 8

Pneumococcic Meningitis for Period of 1937-1943

Age	Days Before Adms'n.	Days In Hosp.	Outcome	Treatment	Complications
3 mos.	7	30	Died	Sulfadiazine, type 14 serum mastoidectomy, blood transfusion Epinal drainage	Mastoiditis
5 mos.	3	10	Died	Sulfadiazine, type V serum Spinal drainage	
8 yrs.	6	31	Lived	Sulfapyridine, type I serum blood transfusion	Ventricular block with release
4 mos.	5	1	Died	Sulfanilamide, spinal drainage	Otitis media Pneumonia
3 yrs.	4	25	Died	Sulfanilamide, spinal drainage, transfusions	Otitis medai
10 mos.		27	Died	Sulfadiazine, type XIV serum spinal drainage	Developed hydrocephalus
3 yrs.	8	3	Died	Sulfadiazine, spinal drainage	
3 yrs.	2	27	Lived	Sulfadiazine, type XIV serum spinal drainage transfusions	Right hemiplegia
5 yrs.	3	12	Died	Sulfadiazine, type 29 serum spinal drainage	Previous attack, right hemiplegia
6 mos.	3	Died	10 hr:	Sulfadiazine, type XIV serum spinal drainage	
10 yrs.	3	43	Lived	Sulfadiazine, type XII serum Infusions, spinal drainage	

Recent reports concerning the use of penicillin in the treatment of pneumococcic meningitis are most encouraging. Since this drug was made available we have treated a seven month old infant intraspinally with penicillin resulting in uneventful recovery. In addition two adults have been treated at the University Hospital with this drug with recovery in both instances. Penicillin would certainly seem the drug of choice and will, no doubt, supplant older methods of therapy.

We have had the opportunity to treat only three cases of streptococcic meningitis with two recoveries.

We have treated one case of staphylococcic meningitis and this patient died. Had penicillin been available, recovery might have occurred in this one instance.

Several months ago we treated this unusual type of meningitis in a three months old infant born prematurely and with an imperforate anus. The anal condition was operated upon immediately after birth. At three months of age she was admitted to the hospital with all the signs and symptoms of meningitis. The spinal fluid was very purulent and an organism belonging to the salmonella group was cultured from the spinal fluid and from the blood stream. This infant was treated with sulfadazine in the usual way and death occurred after several weeks. Several days before death there was blockage of the cerebrospinal fluid and beginning hydrocephalus.

Meningitis caused by strains of H. influenza is one of the prevalent types of meningitis seen in

children. Until the very recent past the treatment has been very unsatisfactory and the mortality high. Prior to the advent of type specific anti-influenzal rabbit serum the mortality varied from 65 to 100 per cent. Pittman in 1931 emphasized the fact that type b H. influenza was the most common of the strains of influenza organisms causing this type of meningitis. Six strains of H. influenzae have been described: a, b, c, d, e, and f. We have observed one case of severe meningitis caused by type f H. influenza. Alexander Ellis and Leidy (1) in an excellent article on H. influenzae infections outlined the biological characteristics of the organism and presented a method of treatment quite similar to the method described in this report. Before the use of specific serum all cases of influenzal meningitis admitted to the pediatric service of the University of Virginia Hospital died. With the advent of chemotherapy the period of morbidity was prolonged from an average of seven days to an average of twelve days. We are unable, however, to report o single case of recovery from chemotherapy alone. The first case treated with type specific anti-influenzal rabbit serum was admitted to the hospital in May, 1940. Since that time we have treated eight cases which are reported in table 9.

TABLE 9

Influenza Meningitis For Period of 1937- 1943

Age	Days Before Adms'n.	Hosp. Days	Outcome	Treatment	Complications
3 yrs.	7	25	Died	Sulfanilamide, spinal drainage fluids	
9 mos.	4	9	Died	Sulfanilamide, spinal drainage fluids	
5 mos.	3	22	Died	Sulfanilamide, spinal drainage fluids	Otitis media
5 mos.	4	18	Died	Sulfapyridine, spinal drainage fluids	
9 mos.	4	24	Died	Sulfapyridine, spinal drainage fluids	Familial amaurotic idiocy
4 yrs.	3	16	Died	Sulfapyridine, spinal drainage fluids	
4 yrs.	3	31	Lived	Sulfathiazole, anti-influenzel rabbit serum spinal drainage, supportive	
9 mos.	3	23	Lived	Sulfadiazine, anti-influenzal rabbit serum spinal drainage, supportive	
3 yrs.	2	30	Lived	Sulfadiazine, anti-influenzal rabbit serum, spinal drainage, supportive	C. N. S. syphilis congenital
3 yrs.	3	36	Lived	Sulfadiazine, anti-influenzal rabbit serum, spinal drainage, supportive	
7 yrs.	2	16	Lived	Sulfadiazine, anti-influenzal rabbit serum, spinal drainage, supportive	Bilateral deafness
9 mos.	2	33	Lived	Sulfadiazine, anti-influenzal rabbit serum, spinal drainage, supportive	Bilateral otitis media
18 mos.	4	30	Lived	Sulfadiazine, anti-influenzal rabbit serum, spinal drainage, supportive	Bilateral otitis media
3½ yrs.	2	21 hrs	Died	Sulfadiazine, anti-influenzal rabbit serum, spinal drainage, supportive	Bilateral otitis media

Table 9 describes our recent experience in the treatment of influenzal meningitis. We admit a sense of real satisfaction in the results obtained in the more recent cases. Seven of the last eight cases treated went on to uneventful recovery.

Of the fourteen cases, six were treated by sulfonamides and spinal drainage. Not one case treated in this fashion recovered. Of eight cases treated with sulfonamides and type specific anti-influenzal rabbit serum seven cases recovered and the one death cannot be properly considered as a failure of therapy. This was the case of a three and one-half month old infant who died twenty-one hours after admission to the hospital. It certainly appears reasonable to conclude that the therapeutic agent largely responsible for the recovery of seven of our last eight cases was type specific anti-influenzal rabbit serum.

TABLE 10

Present Method of Treatment of Influenzal Meningitis

1. Bed Rest, sedatives if necessary
2. Diagnostic Lumbar Puncture
   a. Pressure
   b. Cell count
   c. Protein, sugar and chloride
   d. Smear and culture
   e. Wasserman and colloidal gold curve
3. Blood culture—important for diagnostic purposes
4. Infusion (intravenous, intramedullary, constant drip)

a. Glucose and saline
b. Sodium lactate

5. Sulfadiazine
   a. Sodium sulfadiazine intravenously. Give 1/3 gr. per lb. of body weight. Repeat in eight to twelve hours.
   b. Sulfadiazine by mouth as soon as tolerated by patient's condition. Give 1 grain per lb. of body weight daily. Divide in six doses giving it every four hours.
6. Give specific anti-influenzal rabbit serum intravenously. Average dosage between 50 and 100 gm. of nitrogen, depending on cell count and sugar content of spinal fluid. Repeat serum daily as indicated by laboratory data and clinical course.
7.6Daily blood sulfadiazine levels. Optimal level varies between 8 and 12 mg. per hundred cubic centimeters. Daily urines and check blood every other day.
8. Daily agglutination of patient's serum with organisms isolated in spinal fluid culture (Neufeld-Quelling reaction) until adequate response. Repeat anti-serum if response is poor.
9. Daily spinal tap until culture is negative. If spinal fluid is very purulent advise insertion of 10-20 cc. of air in spinal canal after drainage.
10. Careful watch of ears for otitis media
11. Diet as tolerated
12. Nursing care
13. Supportive measures
    a. Blood transfusions
    b. Infusions
    c. Stimulants or sedatives

Table 10 describes our present routine treatment of influenzal meningitis.

*Record of cases treated since new metheod of treatment was begun about two years ago are shown in parentheses.

TABLE 11

Meningitis All Types — 1937-1943

Type	No.	Lived	Died	Mortality
Meningococcic	22	20	2	9%
Pneumococcic	11	3	8	72%
Influenzal*	14 (8)	8 (7)	7 (1)	52% (12%)
Tuberculosis	14	0	14	100%
Streptococcic	3	2	1	33%
Coliform bacillus	1	0	1	100%
Not diagnosed	3		3	100%
	69	33	36	

Table 11 is a summary of the therapeutic results already described. As gratifying as some of these data may seem there is every reason to believe that further refinements in therapy can be expected and mortality rates materially reduced. Purulent meningitis regardless of etiology is distinctly a hospital disease, even those due to meningococcic infections. The progress of these cases can be successfully followed only by laboratory aids and treatment can be more intelligently carried out with the help of these same laboratory procedures.

NEUROPSYCHIATRIC CASUALTIES

Figures recently released indicate several hundred thousand men have already been discharged from the Army. They return to their communities hoping to readjust to their former positions and occupations, after an interruption varying from a few to many months. Their return is very different than had they been away on a civilian mission for the same period. Everyone in the community will know of their return from the Army and speculate as to the reasons. Despite the fact that work is momentarily plentiful, the average employer will attempt to determine the reasons for the man's discharge from the Army.

A number of the men discharged have been released because of neuropsychiatric difficulties. It is to be expected that particularly will these men have a major readjustment to make in returning home. In many instances they will have difficulty in explaining to their uninformed inquisitors the reasons for their discharge. If the man indicates that it was because of some nervous difficulty, all too often people will interpret this as meaning that the man must have been very sick, possibly even psychotic.

No more important message can be given to the general public about the returning neuropsychiatric casualties from the Army than to indicate that these men are no more incompetent and no more irresponsible, no more incapacitated and no more incapable than those of any cross section segment of our population. It is not inconceivable that in many instances the man may be more capable in his work than he was before he went to the Army. There is no evidence from a medical point of view that the ability to work or hold a job by the vast majority of these men should be questioned any more than a man who has had appendicitis.

—Col. Wm. C. Menninger, M. C., in Virginia Medical Monthly.

THE USE OF SULFAMERAZINE IN PNEUMONIA

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With the discovery of sulfamerazine it was thought from experiments on animals that this new drug would certainly, in many instances, displace the older drugs because of its greater solubility in urine and its more rapid absorption from the gastrotestinal tract. Welch, Mattis, Latven, Benson, and Shiels (1) showed that both sulfamerazine and its acetyl derivatives were slightly more soluble in acid urine than were sulfadiazine and acetyl sulfadiazine. These workers also showed that with equal doses of sulfamerazine and sulfadiazine in monkeys the former drug was more quickly absorbed, attained a higer level in the blood and was excreted slower than the latter. They noted that the toxicity of sulfamerazine in monkeys, mice, dogs and chickens was quite low but probably similar to sulfadiazine. Clark and others (2) showed that the toxic reactions of man to sulfamerazine were no greater than those to other sulfonamides.

Gefter and others (3) used sulfamerazine in 45 cases of meningococcic meningitis with a mortality of 6.7 per cent and an incidence of toxity (all occuring after the fifth day) of 24.4 per cent. This incidence of toxicity is greater than that usually reported with sulfadiazine. The same authors (4) also reported 80 cases of pneumococcic pneumonia treated with sulfamerazine compared with a control series of 80 cases treated with sulfadiazine. There was no difference in the mortality rates although sulfamerazine tended to lower the temperature more rapidly than did sulfadiazine. The newer drug produced about the same incidence of toxic reactions as did sulfadiazine even though it produced higher plasma concentrations. Anderson, Oliver and Keefer (5) presented a comprehensive study of 278 cases of various infections treated with sulfamerazine. They concluded that sulfamerazine exhibited a therapeutic efficiency similar to that of sulfadiazine in the treatment of pneumococcic pneumonia, meningococcic meningitis and erysipelas. The total amount of drug given was one-half to one-third smaller in the case of sulfamerazine as compared with sulfadiazine. The average duration of treatment for bronchopneumonia was six days and the average total dosage of sulfamerazine was 15 Gm. The toxic reactions encountered were about of the same frequency and type as encountered with sulfadiazine although sulfamerazine seemed to have a greater tendency to produce leukopenia as well as drug rashes and drug fevers. Dowling and others (6) found toxic reactions in 10 per cent of 428 patients treated with sulfamerazine, as compared with 8.1 per cent of 900 patients treated with sulfadiazine. They also found renal calculi more frequently after administering sulfamerazine. Drug fever and skin rash were more common after sulfamerazine and this was particularly true after a second administration of the drugs. They conclude that sulfadiazine is the drug of choice for systemic sulfonamide therapy at the present time.

CLINICAL STUDY

In the present study of 40 cases of various kinds of pneumonia in adults sulfamerazine was administered. Each case of pneumonia which entered the hospital on one medical service during the winter of 1943-1944 and which previously had not had another sulfonamide for this infection was treated with sulfamerazine and included in this study. All cases were clinically diagnosed pneumonia and all the diagnoses were confirmed by x-ray plates of the chest. The sputum was typed and cultured in 31 cases. The results are shown in table 1.

TABLE 1 — Pneumonia Study

SPUTUM		No. of Cases
Pneumococcus	Type 1	4
Pneumococcus	Type II	2
Pneumococcus	Type VI	2
Pneumococcus	Type VII	1
Pneumococcus	Type X	1
Pneumococcus	Type XXXIII	1
Pneumococcus	Type Questionable	1
Hemolytic streptococcus	Type Questionable	5
Nonhemolytic streptococcus	Type Questionable	1
Streptococcus viridans	Type Questionable	2
Staphylococcus	Type Questionable	2
Mixed flora	Type Questionable	9
Not examined	Type Questionable	9

A blood culture was done on 24 of these patients and was found positive in four instances. Two cases had a blood culture positive for type I pneumococcus, one case had a positive culture of nonhemolytic streptococcus and one B. paracoli. The average day of the disease when treatment was begun was the second day, although the cases ranged from the first to the tenth day of the disease when first seen. The average initial dose of sulfamerazine at first given in this study was 3 Gm.; this was followed by 1 Gm. every four hours. However,

this amount was soon found to be insufficient and the usual dose thereafter was 4 Gm. initially, followed by 3 Gm. in four hours and then 1 or 2 Gm. every four hours. The blood concentration of the total amount of the drug was carefully and frequently watched. Fluids were given in amounts sufficient to produce a urinary output of a minimum of 1,500 cc. in twenty-four hours. Sodium bicarbonate was given concomitantly with the sulfamerazine in about half the cases. The oral route was used in each case unless the patient was comatose or vomiting, or unless the condition of the patient was so grave that an immediate high blood level was desired, in which case the sodium salt was administered intravenously in 5 per cent solution with distilled water. The desired dose was repeated every eight hours if necessary.

CLINICAL RESULTS

Forty cases of pneumonia were treated with sulfamerazine. Of these, 12 cases showed pneumococci in the sputum while only 2 cases showed a positive blood culture for pneumococci. All the

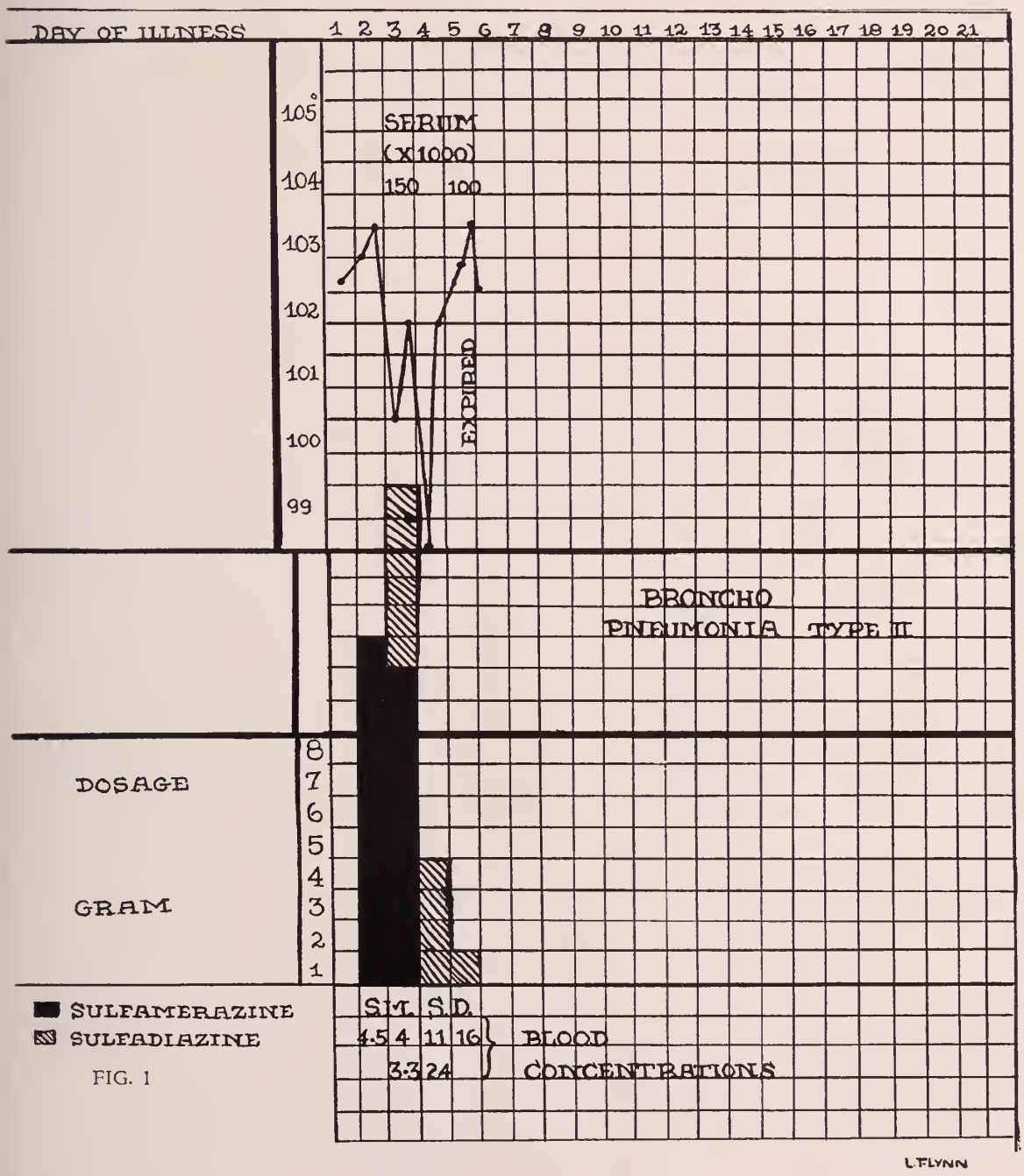
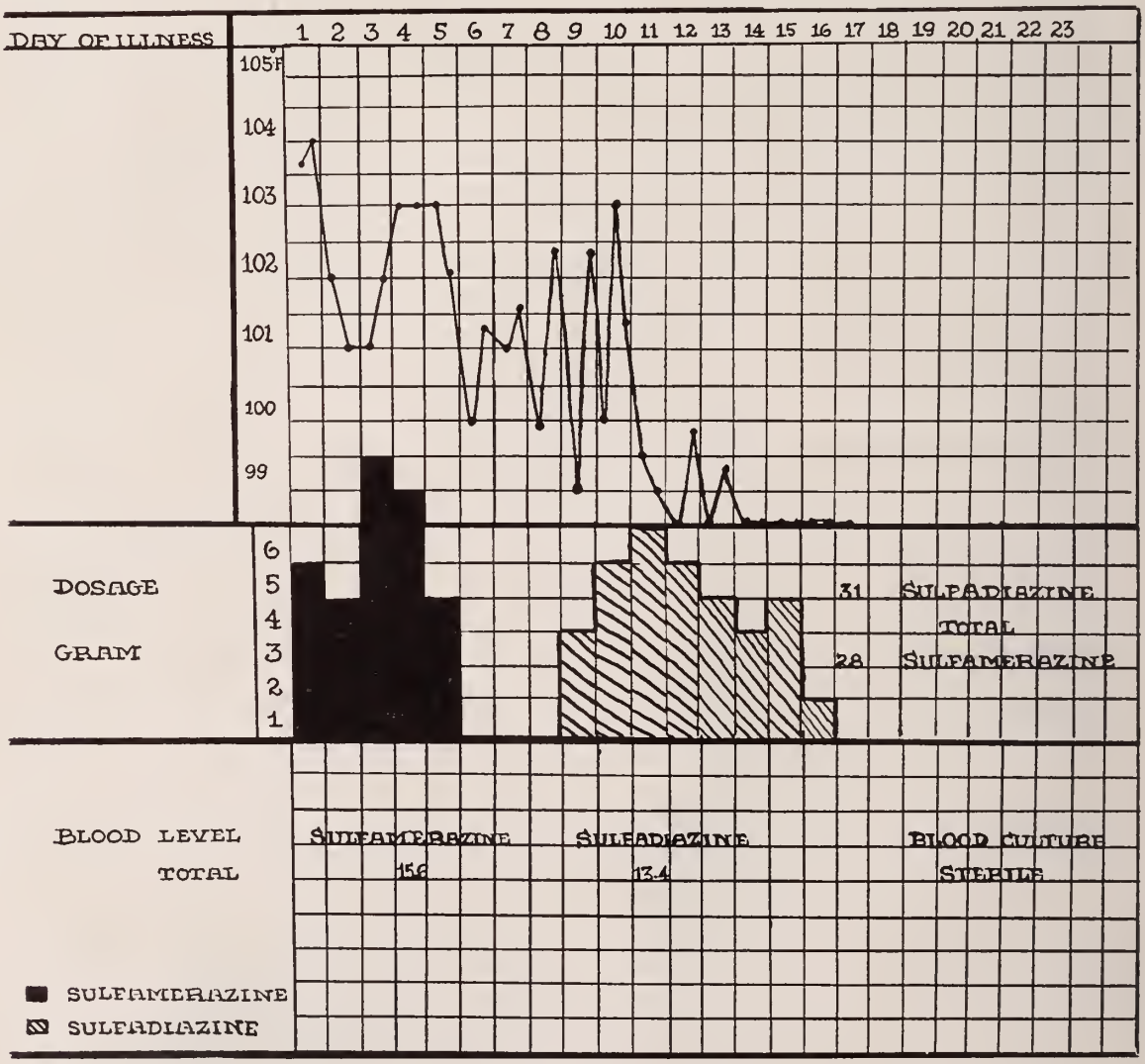


FIG. 1

cases studied are briefly tabulated in table 2. There were two deaths. One of these patients (case 16, fig. 1) had a type II pneumococcus pneumonia and had been sick for three days before admission to the hospital. Despite rather large doses (21 Gm.) of sulfamerazine during the first forty-eight hours the blood level of sulfamerazine could not be raised above 4.5. After forty-eight hours, 150,000 units of type II pneumococcic serum was administered and the patient was then placed on sulfadiazine. This latter drug produced a blood concentration of 24 within twenty-four hours but the temperature remained elevated and the patient was extremely toxic. The patient was then given an additional 100,000 units of type II pneumococcic serum but did not respond and expired the fourth day after admission. The other death occurred in an elderly patient with arteriosclerotic heart disease eleven days after her temperature became normal and eight days after sulfamerazine was discontinued (case 1). It was felt that her death was due purely to her cardiac condition but since it was probably hastened by infection, the mortality is included in this series.

Three other cases did not respond to sulfamerazine therapy (cases 10, 13 and 17). Of these, one (case 17) had Streptococcus viridans only in the sputum and failed to respond to a total dosage of 28 Gm. of sulfamerazine in five days even though the blood concentration reached 15.6 (fig. 2). However, after sulfadiazine was given in the amount of 31 Gm. in eight days and the blood concentration of sulfadiazine reached 13.4



STREP. VIRIDANS LOBAR-PNEUMONIA
FIG. 2

the patients temperature dropped to normal either coincidentally or because of the specific therapy.

The other two cases which failed to respond to sulfamerazine therapy likewise failed to improve under sulfadiazine therapy. One of these (case 13) developed a pleural effusion which kept the temperature elevated; the other (case 10) failed to respond for no known cause. The sputum showed a mixture of Staphylococcus albus, pneumocci (not typable), B. coli, Monilia albicans and Streptoccus hemolyticus. Blood culture was not done. Since this patient signed his release after the twenty-seventh hospital day, the outcome is not known. The report on the x-ray of the chest was lobar pneumonia, although he at all times showed a leukopenia. It is possible that this patient had an atypical pneumonia.

From these cases it was observed that in 20 instances where the blood concentration of sulfamerazine was ten or above within the first forty-eight hours there were two in which there was no response as previously mentioned, one responded with the aid of pneumococcic serum in four days and one responded slowly in five days. (By the word "responded" is meant that the temperature dropped to normal). Out of these 20 cases with blood concentrations of ten or above within the first forty-eight hours there were 15 that responded within forty-eight hours. There were likewise 20 patients whose blood concentrations were below ten after forty-eight hours of medication and of these 2 did not respond (1 died and 1 developed pleural effusion), 11 responded slowly in from three to ten days and only 7 responded within forty-eight hours. Of the first group, the average amount of the drug given in the first forty-eight hours was 14 Gm., while in the second, less responsive group, the average amount of sulfamerazine given in the first forty-eight hours was 14.6 Gm. Also, in the first series the average total amount of the drug given was 33.4 Gm., while in the second series the average total amount given was 38 Gm.

If conclusions can be drawn from such a small number of cases, it is suggestive that for satisfactory results from the administration of sulfamerazine in the treatment of pneumonia, a blood concentration of at least 10 is desirable. This is somewhat higher than the usual figures given for sulfadiazine, namely, a concentration of 6 to 8 mg. per hundred cubic centimeters. When its is remembered that 80 per cent of the total amount of sulfamerazine in the blood is bound to the globulin fraction of plasma whereas only 55 per cent of sulfadiazine is plasma bound, it becomes apparent that only 20 per cent of the sulfamerazine in the blood is available for antibacterial action while 45 per cent of sulfadiazine in the blood is available; consequently, a blood level of 4.5 with sulfadiazine is equivalent to a blood level of 10 with sulfamerazine. This is ap-

TABLE 2

Case Number	Sputum Type	Blood Culture	Normal Temp. In Hours	Drug Given 1st 48 hrs. (gm.)	Total Drug Given (Gm.)	Blood Concentration In 48 hrs.	Result
1	U.	U.	72	8	22	6.5	Ex. (Card
2	H. S.	S.	48	20	37	5	Imp.*
3	St.	U.	24	14	26	14	Imp.
4	H. S.	S.	24	12	17	13	Imp.
5	M. F.	S	36	12	34	14	Imp.
6	No T.	U.	120	14	71	4	Imp.
7	Pn. X	S.	12	16	38	10	Imp.
8	H. St. & H. S.	S.	12	12	32	13	Imp.
9	U.	S.	48	15	39	5.7	Imp.
10	St. & H. S.	U.	N. R.	12	38	12.5	Unimp.
11	Pn. I	S.	12	11	50	11	Imp.
12	Pn. II	S.	48	12	34	13	Imp.
13	N. H. S.	U.	N. R.	13	28	7.4	Unimp.
14	Pn. VI	U.	48	17	44	10	Imp.
15	S. V.	U.	96	17	37	6	Imp.
16	Pn. II	U.	N. R.	21	21	4	Ex.
17	S. V.	S.	N. R.	9	28	15.6	Unimp.**
18	H. S.	U.	120	11	59	6.3	Imp.*
19	U.	U.	72	3½	17	5.3	Imp.
20	M. F.	S.	240	11	51	8	Imp.***
21	St.	S.	24	9	31	9	Imp.
22	H. S.	S.	36	13	26	13.5	Imp.
23	U.	S.	24	16	46	8	Imp.
24	Pn. VII	N. H. S.	24	13	26	20	Imp.
25	H. S. & St.	S.	24	18	38	15	Imp.
26	Pn. I	Pn. I	96	15	65	12.4	Imp.
27	U.	U.	36	13	13	7.4	Imp.
28	U.	U.	72	8	15	4.0	Imp.
29	H. S.	S.	120	15	34	16.6	Imp.
30	U.	U.	168	13	37	5	Imp.
31	M. F. & S. V.	S.	60	13	27	5	Imp.
32	U.	U.	36	10	10	7.4	Imp.
33	Pn. VI	U.	36	11	23	16	Imp.
34	Pn. XXXIII	S.	0	14	52	6.3	Imp.
35	Pn. ?	S.	12	16	21	15	Imp.
36	U.	U.	120	17	31	9 ?	Imp.
37	Pn. I	Pn. I	64	17	39	9	Imp.
38	M. F. & H. S.	S.	6	13	20	10	Imp.
39	M. F. & S. V.	B. P. C.	88	14	34	16	Imp.
40	Pn. I	S.	24	24	41	15	Imp.

*Toxic Reaction — Nausea
**Toxic Reaction — Hematuria
***Toxic Reaction — Slight Anemia

Key to Abbreviations in Table 2

B. P. C.—B. paracoli
Card.—Cardiac
Ex.—Expired
H.S.—Semolytic Streptococcus
H.St.—Hemolytic Streptococcus
Imp.—Improved
M.F.—Mixed flora
N.H.S.—Nonhemolytic Streptococcus
No T.—No type
N.R.—No response
PnflX—Pneumoccous type X
S.—Sterile
St.—Stanphylococcus
S.V.—Streptococcus
U.—Undertermined
Unimp—Unimproved

proximately in agreement with the findings as reported. It appears also that there is considerable individual variation in absorption and excretion of sulfamerazine since in each of the foregoing series of 20 cases the average amount of the drug given in the first forty-eight hours and the average total amount of the drug given are approximately the same.

Four cases out of 40 (10 per cent) in this group of pneumonia cases developed toxic symptoms. None of the toxic reactions manifested were of a serious nature. Table 3 lists the toxic reactions noted.

TABLE 3

Toxic Reactions from Sulfamerazine in Forty Cases:

Nausea and vomiting	2	
Microscopic hematuria	1	
Slow progressive anemia	1	
Total toxic reactions	4	(10%)

Two cases developed nausea and vomiting. One case developed microscopic hematuria and one developed a low grade slow progressive anemia. No cases of gross hematuria or anuria were noted. These figures are about the same as those given for sulfadiazine in the treatment of pneumonia (6).

It is not feasible to draw conclusions from such a small series of cases. However, from this study it is suggested that sulfamerazine is apparently equal to sulfadiazine in its therapeutic effect on pneumonia (although there was one case which did not respond to sulfamerazine but may have responded to sulfadiazine); that it is equally as toxic as sulfadiazine; that an effective blood concentration for sulfamerazine is at least 10 whereas for sulfadiazine an effective blood concentration is 6 mg per hundred cubic centimeters.

SUMMARY

Forty cases of various types of pneumonia treated with sulfamerazine are presented.

In this series there were two deaths making a mortality rate of 5 per cent.

The satisfactory and effective blood concentration was noted to be at least 10 mg. per hundred cubic centimeters in most of the cases.

The toxic reactions were not severe but occurred in 4 cases (10 per cent) of this series.

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INFLUENZAL MENINGITIS

Clinically, influenzal meningitis differs in no respect from the other pyogenic meningitic infections. It may display an acute fulminating picture identical with that seen in a meningococcus infection, except for the absence of petechiae, or the clinical course may have the features of a long drawn out tuberculous meningitis. Between these two extremes all varieties of infection may occur. In early infancy the detection of early meningeal involvement constitutes the chief problem.

The disease is generally ushered in by several days of unexplained fever, at times associated with a mild upper respiratory infection which might readily be ignored. The infant who displays drowsiness, alternating with arritability, should warn the examiner to pay particular attention to the fontanel tension. Experience enables one to detect an increase in intracranial pressure some time before the staffness of the neck or the appearance of a Kernig sign. Unfortunately, at this point the meningitis is well advanced and the use of correct therapy may be of no avail.—*Oliver W. Hosterman, M. D., in Ohio State Medical Journal.*

AMERICAN GERIATRICS SOCIETY

The third annual meeting of the American Geriatrics Society will be held at the Hotel Commodore, New York City, June 14-16, 1945, immediately preceding the A.M.A. convention at Philadelphia. Dr. Wingate M. Johnson, of Winston-Salem, North Carolina, the president, will preside. Dr. Malford W. Thewlis, of Wakefield, Rhode Island, is secretary. The full program will be announced at a later date.
—Canadian Doctor.

WEST VIRGINIA STATE MEDICAL ASSOCIATION

FOUNDED APRIL 10, 1867

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Surgery

Guy H. Michael, Parsons, Chairman; John S. Meier, Wheeling, Secretary.

The President's Page

It is with a great sense of humility that I address the membership of the West Virginia State Medical Association, knowing by observation and association the illustrious men who have preceded me, making their terms of office historic ones in the annals of our Association. Ideas have been born, foundations have been built, all to reach a culmination for the betterment of medicine and medical care in West Virginia.

As you read this letter, bills proposing most radical changes in our State Health Department are being drafted for introduction in the legislature.

In the December issue of The Journal, you will find the report of Ray Bobbitt's Fact Finding Committee, which has been unanimously approved by the council and the legislative committee. If you have not studied the program, you should immediately familiarize yourself with the legislation that is proposed. As I have stated before, this is one of the most outstanding pieces of legislation that the State Medical Association has proposed in a good many years, and is the result of much time and effort on the part of the Fact Finding and Planning Committee.

These bills will be presented to the legislature for enactment this month. They can be passed provided each and every member of the State Medical Association contacts the members of the House of Delegates from his county and the Senators from his district, urging their support for these measures. It is only with unanimity of purpose that the rainbow of achievement will shine upon our Association.

In this supreme hour the doctors of West Virginia should accept with a whole heart the obligations of their membership.

My best wishes to all the members of the State Medical Association for a most Happy and Prosperous New Year.

Thomas R. Harris

President.

West Virginia Medical Journal

Official Journal of
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PSYCHIATRY IN MEDICINE

It appears at long last psychiatry has come into its own. To be intellectually honest it must be admitted that it was not so long ago that the majority of physicians had an indifferent regard toward psychiatry. The feeling was current that the so-called specialists in nervous and mental diseases spent most of their time in comfortable institutions and for the main part devoted their somewhat listless energies to the care of dilapidated dementia praecox patients or those suffering from senile dementia. In short they were looked upon as administering custodial care only. In some instances this undoubtedly was true, but in others it was decidedly not.

During the past few years psychiatry slowly but surely has insinuated itself not only upon the average physician but upon the intelligent layman as well. The present war has emphasized the tremendous importance of the value of well trained psychiatrists. It is unnecessary to labor this point since everyone knows it. It was rumored that at the beginning of the war the Navy had only a handful of trained psychiatrists, but the record now shows that this all has been changed.

It is to the credit of medical educators that they recognized long ago the importance of psychiatry in medicine. Many schools have included in the curriculum of the second year certain courses, which may be regarded as a foundation for clinical psychiatry. These courses are generally taught under the name of psychobiology. Indeed some schools offer such a course in the first year of medicine. Thus nowadays the medical student is shown early the importance of the interaction between mind and body. This is quite in contrast to the days when the vast majority of medical colleges gave only a smattering of psychiatry in the senior year.

Space does not permit, nor perhaps is it necessary to stress, the significance of the fast growing field of psychiatry. Every physician knows that a psychic component plays a large part in nearly every illness. For this reason, if for no other, it behooves the physician to have an intelligent understanding of the fundamental principles of psychiatry. A sympathetic regard for the psychic component in illness will often prevent patients from seeking medical aid from questionable if not harmful sources.

Lastly, it is highly significant that there was such an enthusiastic response to the recent questionnaire, which had to do with interest in psychiatry, sent out by the Council of the West Virginia State Medical Association. It redounds to the credit of the physicians of the state and the Council is to be congratulated upon its vision for sending out such a questionnaire. All of this auguers well for the future of the practice of medicine in the state of West Virginia.

LEADERSHIP IN 1945

The duties of the president of the West Virginia State Medical Association are becoming increasingly heavier with the progress of the war. Besides the ever present problem of the shortage of doctors in vital areas, planning for the future, with the much-to-be desired return of doctors from military service to their home communities, must be given attention. Rehabilitation and relocation will have to be considered with plans for adequate medical care for all. Our immediate concern is the enactment of legislation sponsored by the State Medical Association. The presidency has been no sinecure for several years, and 1945 will prove to be no exception.

For this job, the House of Delegates has chosen a man eminently qualified by training and experience to carry the torch for the State Medical Association. Dr. Thomas L. Harris, of Parkersburg, is not waiting for something to turn up. He is already actively cooperating with the legislative

and the fact finding and planning committees. He realizes that if our legislative program is to be accepted, much preliminary work is to be done, and he is pointing the way. His constructive brand of leadership means much to the members at this time.

Doctor Harris takes office with the solid backing and united support of the members of the Association. He is respected and trusted. We wish for him unbounded success during his term of office in 1945.

Dr. Thomas L. Harris

Doctor Harris' predecessor, Dr. Robert J. Reed, Jr., of Wheeling, was the third of our war-time presidents. Developments in the medical world came thick and fast during his term of office, and never for one moment did he hesitate to do what he conceived to be for the best interests of organized medicine. His services will not end with his retirement from the office of president, as he automatically becomes chairman of the council, succeeding Dr. R. J. Wilkinson, of Huntington, who has so ably served in that capacity during the past year. It will be remembered that it was Doctor Wilkinson who conceived the idea of a fact finding and planning committee, the members of which did such a fine job that the House of Delegates made it one of the standing committees of the Association.

With Doctor Harris as president, Doctor Reed as chairman of the council, and Doctor Wilkinson as councillor-at-large, the Association is assured of a continuance during 1945 of the kind of leadership that has made it one of the most progressive medical Associations in the country. While we have much to concern us, the Association's affairs

Dr. Robt. J. Reed, Jr.

are in good hands and we have confidence in the ability of our officers, councillors and committees to accomplish the things most needed to help us give to the people of West Virginia the highest type of medical service possible.

DUES PAYABLE

Although dues of members of the State Medical Association are not payable until January first, several secretaries and treasurers of component societies have already remitted for such dues paid in advance by members for 1945. The special assessment of $5.00, levied by the House of Delegates for 1945 to help avoid a deficit occasioned principally by the nonassessment of dues against members in the military service, is also payable the first of the year.

We do not think that it is too much to hope that all members will pay dues and special assessment promptly. Officers of component societies are over-worked in the practice of their profession, and secretaries and treasurers would be aided considerably in their work if payments were made during the present month so that remittances may be made to the headquarters office at Charleston prior to the deadline on April first.

General News

ASSOCIATION COMMITTEES NAMED BY PRESIDENT HARRIS FOR 1945

The efficient work performed during the past year by members of standing committees of the State Medical Association was recognized by Dr. Thomas L. Harris, president-elect of Parkersburg, in selecting personnel for 1945. Very few changes have been made in any committees and the work of two of the most important key committees, the legislative and fact finding and planning, will proceed without the interruption that would necessarily have followed changes in membership.

In the revision of the by-laws by the House of Delegates at Wheeling last May, two committees were eliminated from the list of Association standing committees. These were the committee on inter-professional relations, and the committee on medical economics. Most of the work of the last-named committee has been taken over by the fact finding and planning committee. The following is a complete list of the members of all standing committees appointed by the president for 1945:

Committees

Committee on Cancer: J. Ross Hunter, Charleston, chairman; Russell B. Bailey, Wheeling; Chauncey B. Wright, Huntington; J. E. Offner, Charleston; H. H. Haynes, Clarksburg; and Hu Myers, Philippi.

Committee on Revision of the Constitution and By-Laws: J. Howard Anderson, Hemphill, chairman; James L. Wade, Parkersburg; and F. C. Hodges, Huntington.

D. P. A. Advisory Committee: Hugh Bailey, Charleston, chairman; T. G. Reed, Charleston; and Thomas H. Blake, St. Albans.

Fact Finding and Planning Committee: Ray M. Bobbitt, Huntington, chairman; D. A. MacGregor, Wheeling; John P. Helmick, Fairmont; Frank V. Langfitt, Clarksburg; Carl E. Johnson, Morgantown; G. O. Martin, Martinsburg; R. O. Rogers, Bluefield; G. G. Irwin, Charleston; and E. A. Trinkle, Weston.

Committee on Industrial Health: J. J. Brandabur, Huntington, chairman; W. F. Rogers, Parkersburg; J. L. Patterson, Holden; J. L. Thompson, Weirton; and C. Scott McKinley, Charleston.

Committee on Legislation: R. O. Rogers, Bluefield, chairman; Frank V. Langfitt, Clarksburg; Ray M. Bobbitt, Huntington; George P. Evans, Iaeger; and George F. Grisinger, Charleston.

Committee on Medical Education: R. J. Wilkinson, Huntington, chairman; Frank V. Langfitt, Clarksburg; E. J. Van Liere, Morgantown; Andrew E. Amick, Charleston; and Frank J. Holroyd, Princeton.

Committee on Necrology: James R. Bloss, Huntington, chairman; H. R. Johnson, Fairmont; and Chester Ogden, Clarksburg.

Committee on Publicity: James L. Wade, Parkersburg, chairman; W. W. Point, Charleston; and C. O. Post, Clarksburg.

Committee on Syphilis: Carl A. Hoffman, Huntington, chairman; Howard T. Phillips, Wheeling; L. E. Neal, Clarksburg; M. L. Bonar, Charleston; and O. D. Barker, Parkersburg.

Committee on Conservation of Vision and Hearing: Ivan Fawcett, Wheeling, chairman; R. A. Tomassene, Wheeling; V. E. Holcombe, Charleston; Harry V. Thomas, Clarksburg; and E. C. Hartman, Parkersburg.

The by-laws provide that the president is to appoint the chairman of the committees on child welfare and maternal welfare. The members are elected by the House of Delegates, one from each congressional district. At the Wheeling meeting in May, 1944, president-elect Harris renamed Dr. Thomas G. Folsom, of Huntington, as chairman of the committee on child welfare, and Dr. James R. Bloss, of Huntington, as chairman of the committee on maternal welfare. The members of the two committees will remain the same until the annual meeting at Clarksburg in 1945.

The president heretofore named the members of the scientific work committee, which is composed of Drs. James L. Wade, of Parkersburg, chairman, Frank V. Langfitt, of Clarksburg, and Hampton St. Clair, of Bluefield.

RELOCATIONS

Dr. Boyce Elliott, who has been located at Pocahontas, Virginia, has moved to Maybeury, and Dr. I. T. Peters has moved from Maybeury to Princeton.

* * * *

Dr. Weaver B. Rogers, who has been in industrial practice with Dr. G. G. Rogers at Mt. Hope, has accepted an appointment on the medical staff at the Spencer State Hospital, and reported for duty late in December. He was formerly located at Havre, Montana, and came to West Virginia in 1943.

* * * *

Dr. R. H. Fowlkes, of Crumpler, has located at Bluefield.

* * * *

Dr. F. C. Goodall has moved from Matoaka to Princeton.

* * * *

Dr. William A. Klausman is now located in Anjean, having moved there from Holden.

* * * *

Dr. George D. Hill has moved from Tioga to Camden-on-Gauley.

1945 ROSTER OF MEMBERS

The 1945 roster printed in this issue of The Journal includes the names of all the members of the West Virginia State Medical Association as shown on the records at the headquarters office in Charleston. Any errors in names or initials or in symbols designating honorary membership or military service should be reported not later than January 15. The roster will be corrected finally on that date and printed in pamphlet form for distribution to association and component society officers and Journal advertisers.

SOCIAL HYGIENE DAY

The American Social Hygiene Association has designated February 7, as Social Hygiene Day. A kit, containing a program, publicity aids, poster and folder has been prepared for distribution to interested persons or groups, and may be obtained by addressing American Social Hygiene Association, 1790 Broadway, New York City.

INDEX TO VOLUME 4

The index to Volume 40 of the WEST VIRGINIA MEDICAL JOURNAL is printed as a looseleaf supplement and distributed with this issue of The Journal.

RED CROSS PUSHES STATE PROGRAM FOR EXTENSION OF HOME NURSING

Extension of the Red Cross Home Nursing program, as a step in meeting the growing shortage of doctors and nurses, now is being pushed throughout West Virginia. State planning meetings of interested agencies have already been held in several states. The Red Cross course now is being aimed especially toward homes to which disabled servicemen will return, as well as toward the million of other households in which problems of home care are certain to arise.

An additional 3,000,000 persons trained in home nursing techniques is the Red Cross objective nationally. Approximately 55,000 doctors and 43,000 nurses already have been withdrawn from civilian life for service with the armed forces, and it has been announced that 10,000 more nurses are being sought for the army.

Many public health nurses in West Virginia are including home nursing classes in their regular programs. Local health departments and Red Cross are working together in this. Red Cross also is working with parent-teacher units, federated women's clubs, and other groups to increase the number of classes.

Efforts now are being made to interest engaged couples and newly married people in home nursing as a form of health insurance. In many states there have been classes for men.

Because the burden of home care often falls on the young, school courses are given in grades 9 to 12 to students 14 years of age and older. Courses for adults and students have these objectives:

To develop an appreciation of mental and physical health and a desire to build those habits that will safeguard them.

To teach the fundamental relationship between individual health cleanliness, sanitation and arrangement of homes.

To build a basic understanding of the principles of prevention and control of disease.

To teach efficient methods of meeting the normal problems of the home, such as care of the baby, preschool child, school child, and the aged.

To develop some practical knowledge in the care of the sick under home conditions and according to the physician's directions.

To develop an intelligent understanding and an attitude of interest and cooperation in solving community health problems.

The Red Cross authorizes qualified registered nurses to teach the home nursing course, which is conducted through local American Red Cross Chapters in every state.

ROOMS AVAILABLE AT CLARKSBURG

Desirable rooms are still available at Clarksburg hotels in connection with the annual meeting of the State Medical Association in that city, May 14-15, 1945. The Waldo, Stonewall Jackson and Gore have been designated as convention hotels. The largest meeting in the history of the Association in point of doctor attendance was held at Clarksburg in 1937. Every effort is being made by the local committee on arrangements to provide for the comfort and entertainment of visitors. The committee is composed of Dr. C. O. Post, chairman, and Drs. J. E. Wilson and Frank V. Langfitt.

OFFICERS ELECTED AT WHEELING ASSUME NEW DUTIES JANUARY FIRST

On January 1, 1945, Dr. Thomas Lewis Harris, of Parkersburg, assumes the duties of the office to which he was elected at the annual meeting at Wheeling, last May, — president of the West Virginia State Medical Association. At the same time, Dr. M. B. Williams, of Wheeling, and Dr. L. G. Houser, of Beckley, take office as first and second vice president, respectively. Dr. T. M. Barber, of Charleston, continues as treasurer, having been reelected for his 19th consecutive term.

Doctor Harris was born at Hedgesville, and took his premedical work at West Virginia University, graduating from that institution with the degree of B. S. He received his M. D. degree from Jefferson Medical College, Philadelphia, in 1912, interned at Pennsylvania Hospital, and served a residency at Children's Hospital. He did postgraduate work for a number of years in Scotland and Ireland, and has practiced his specialty of surgery at Parkersburg during his entire medical career.

During World War I, Doctor Harris served in the medical corps of the Army. He is a member of the Founders Group of the American Board of Surgery, and a Fellow of the American College of Surgeons and the International College of Surgeons. He has always taken an active interest in civic affairs in his home city and headed the drive that resulted in the building of the new St. Joseph's Hospital. In 1941 he was awarded the honorary degree of Doctor of Science by Marietta College, Marietta, Ohio.

In addition to the officers, the new Council is composed of Dr. Robert J. Reed, Jr., of Wheeling, chairman, and Dr. R. J. Wilkinson, of Huntington, councillor-at-large, and the following district councillors: First, R. D. Gill, Wheeling, and John P. Helmick, Fairmont; second, Carl E. Johnson, Morgantown, and Guy H. Michael, Parsons; third, E. A. Trinkle, Weston, and J. E. Wilson, Clarksburg; fourth, Walter C. Swann, Huntington, and Curtis P. Artz, Grantsville; fifth, N. H. Dyer, Bartley, and J. L. Patterson, Holden; sixth, W. P. Bittinger, Summerlee, and Thomas G. Reed, Charleston.

EMIC PROGRAM IN WEST VIRGINIA

More than 8,000 cases have been approved for the Emergency Maternal and Infant Care program in West Virginia since May 12, 1943. Reports compiled by Dr. Norman G. Angstadt, director of the bureau of county health work of the state health department, who has been acting director of the division of maternal and child hygiene for several months, show that 8,118 cases had been approved up to December 1. Of this number, 756 covered treatment of children under one year of age.

Applications are being received at the rate of 500 per month as against 150 during the first few months of the program. A total of $465,645.80 has been approved for cases in West Virginia. This represents approximately $74.00 for each delivery. The total amount approved for treatment of children as of December 1, is $24,060.87. All funds are supplied by the government.

1945 "MARCH OF DIMES"

Forty-three prominent industrial and civic leaders have been appointed as State Chairmen for the March of Dimes and will direct the Fund-Raising Appeal of the National Foundation for Infantile Paralysis, January 14-31, in their states, it has been announced by Basil O'Connor, Foundation President. J. A. Bibby, Jr., of Charleston, will again serve as chairman for West Virgniia.

Although the infantile paralysis epidemic of 1944, with nearly 19,000 cases already reported, was the second largest in the recorded history of the disease in the United States, the nation was better prepared for the march of the Crippler than ever before, through the generosity of the American people whose dimes and dollars helped to stem the tide of the mysterious poliomyelitis for which there is no known preventative and no cure, Mr. O'Connor pointed out.

Last year more than 50,000,000 Americans joined one of the world's largest fraternal organizations, The National Foundation for Infantile Paralysis, by contributing their dimes and dollars to the March of Dimes. The power of their combined "dues," contributed voluntarily each year, is now giving infantile paralysis victims all over the country the best care that medical science offers today.

RINGWORM EPIDEMIC

Kanawha County, according to the state health department, has what amounts to a mild epidemic of ringworm, with 175 cases reported from two areas as of December 15. There are no cases among adults, and none among girls. The infection has been found in boys and is limited to the crown of the head or the area between the hairline and the crown.

Barber shops have been given a clean bill of health by the state health department, which reports that 90 per cent of the cases have been found in boys between the ages of seven and twelve.

An educational program is now under way in Kanawha county schools with the purpose in mind of impressing upon children the importance of refraining from resting their heads on the backs of seats in public places.

IMPORTANT JANUARY MEETING

Heavy snows and accompanying transportation difficulties completely disrupted a schedule of several meetings of committees of the State Medical Association planned for early December.

A joint meeting of groups representing the Association, hospitals, and hospital-medical-surgical plans operating in the state has been tentatively set for early in the year prior to the beginning of the regular session of the legislature on January 10. The principal item of business to be discussed is the possible drafting of a bill covering the continued operation of these plans, and an effort will be made to find a solution satisfactory to all groups.

PHC TO MEET IN FEBRUARY

The regular winter meeting of the Public Health Council will be held at the Daniel Boone Hotel, Charleston, February 26-28, 1945, for the purpose of examining applicants for licensure in this state.

1945 SCIENTIFIC EXHIBITS

All scientific exhibits arranged in connection with the 78th annual meeting of the State Medical Association, at Clarksburg, May 14, 15, will be set up at the Stonewall Jackson Hotel. A general invitation to all doctors, hospitals, and institutions to participate has been extended by Dr. Hu C. Myers, of Phillipi, chairman of the Committee on Scientific Exhibit.

Adequate space has been set aside for use of exhibitors who are requested to advise Doctor Myers concerning the nature of their displays and the amount of space necessary for their purposes.

Besides Doctor Myers, the committee is composed of Drs. John P. Helmick, Fairmont, and Frederick R. Whittlesey, Morgantown.

NEW ACS FELLOWS

The American College of Surgeons has announced that twelve Vest Virginia doctors were accepted into fellowship in 1944, seven of whom are in the military service. The complete list, as reported by Dr. Malcolm T. MacEachern, Associate Director, of Chicago, is as follows:

James D. Bird, Jr. (MC) USNR, Elm Grove; Francis L. Coffey (MC) Huntington; Rank O. Dawson (MC) USNR, Charleston; Henry M. Escue (MC), Charleston; Worth B. Forman, Buckhannon; Thomas V. Gocke, Clarksburg; T. Kerr Laird, Montgomery; Albert E. Long, Weston; Junior Winfred Myers (MC), Philippi; Samuel L. Schreiber, Charleston; Edwin M. Shepherd (MC), Charleston; and I. Ewen Taylor (MC), Huntington.

SOUTHERN CHAPTER ACCP

Dr. Alvis E. Greer, of Houston, Texas, was elected president of the Southern Chapter of the American College of Chest Physicians at the annual meeting held conjointly with the Southern Medical Association at St. Louis, November 13-14. Other officers were elected as follows: First vice president, Carl C. Aven, Atlanta, Georgia; second vice president, Paul A. Turner, Louisville, Kentucky; and, secretary-treasurer, Benjamin L. Brock, Waverly Hills, Kentucky.

The following West Virginia doctors were registered at the meeting: Walter E. Vest, Huntington; Charles E. Smith, Terra Alta; James Skaggs, Charleston; and, Leonard E. Neal, Clarksburg.

MEDICAL CARE STUDY

Former Lieut. Col. Basil C. MacLean, a director of the Strong Memorial Hospital, Rochester, N. Y., heads the commission named by Governor Thomas E. Dewey to study tax-supported medical care for the needy in New York State. A program is to be submitted to the legislature next January.

NO POLIO IN WEST VIRGINIA

Reports compiled by the state health department for the week ending December 16, show that West Virginia is free from all cases of polio for the first time since last July. During the year 221 cases were reported in the state, with an estimated death toll of nine. This compares with 662 cases and fifty-two deaths in 1940. The death rate in that year was 7.8 per cent.

Doctors in the Service

Major Howard G. Weiler, of Wheeling, who was stationed at Chanute Field, Illinois, is now assigned to the Baxter General Hospital, Spokane, Washington, where he is chief of the orthopedic surgical section.

* * * *

Captain Dewitt T. Bond, of Amherstdale, who has been in the South Pacific area for some time, is now assigned to the quartermaster depot, Jeffersonville Barracks, Jeffersonville, Indiana.

* * * *

Captain Wm. C. Polsue, of Charleston, has been transferred from Fort Terry, New York, to the medical dispensary of the 189th C. A. Battalion, at Fort Adams, R. I.

* * * *

Lt. Commander James R. Brown (MC), USNR, of Huntington, who has seen action on shipboard in the Pacific, and was recently stationed at Camp Allen, Norfolk, Virginia, is now assigned to the Marine Corps Air Station at Cherry Point, N. C.

* * * *

Capt. Harold Ashworth, of Moundsville, is attached to the surgical staff at Wakeman Hospital, Hope, Indiana.

* * * *

Capt. Dan Glassman, of Charleston, is now in Hawaii and is attached to a station hospital. He reports that he is kept quite busy all the time.

* * * *

Lieut. M. A. Santer (MC), USNR, of Parkersburg, is attached to a Marine Air Group operating somewhere in the Pacific.

* * * *

Commander Robert S. Widmeyer (MC), USNR, of Parkersburg, is serving as chief medical officer on a new submarine tender operating in the Pacific.

* * * *

Lt. (jg) James C. Batten (MC), USNR, of Parkersburg, is serving as medical officer on a minesweeper in the ETO.

* * * *

Lt. W. A. Bevacque, USPHS, of Parkersburg, is now stationed on a coral island somewhere in the South Pacific. He visits other units in this area daily, making all trips by air. He reports that the climate is very hot with strong winds blowing most of the time.

* * * *

Captain John L. Feldman, of Longacre, writes from Italy, as follows:

My dear Mr. Lively:

It was a great pleasure to receive your letter of 15 Sept., which my sister forwarded to me. I highly appreciate the kindly interest which you expressed, and am looking forward with anticipation to receiving copies of The Journal. It's not so very long ago that I was back in West Virginia, but it seems like a very long time indeed; almost a strange world which I've read about but never really seen.

It's been a series of highly varied and usually very interesting adventures, since I joined the service in 1942. After attending the School of Aviation Medicine at Randolph Field, I served for a while with a heavy bombardment training group in Louisiana. I was finally sent overseas, and have acquired a gairly thorough knowledge of North Africa and Italy.

I am with a fighter squadron at present, a grand gang of men who are doing a wonderful job. In all these wanderings it has been a constant source of pleasure to meet the various individuals that comprise our army, hailing from all sections of our country, and to realize the courage, the basic generosity, the humor, patience and fortitude, not to mention the variety of skills and talents, that these men possess. It deepens one's pride in America, and one's confidence in the inevitable result.

Some of my experiences have been tragic, some comic, and all instructive. But somehow they seem a bit unimportant right now, as there are too many other things going on. No doubt you've read far better descriptions of this war-torn country and the so-called "glamor" of war than I could give you. My observations are that there's very little glamor about most of it — it's a compound of work, sweat and blood, thinly glossed over by a spirit-saving casualness.

If you know anybody who still remembers me, say "Arrividerci" for me. (I've become quite fluent in French and Italian — it helps a lot.)

My best wishes.

Sincerely,

John L. Feldman.

* * * *

"The busiest days of practice in West Virginia seem like holidays compared with the work we had to do during the battle of Saipan; however, I have had so many idle days since I enlisted that the hard work is positively refreshing." So writes Capt. Hyman Ashman, formerly of Gallagher, to Dr. William B. Davis, of Rainelle.

"All around us," he writes, "are papaya and banana trees and dozens of other species of trees and vegetation unfamiliar to me. Chickens and goats wander through our doorless and windowless house. On one side we see the mountains and on the other the ocean. The island of Tinian lies in full view only a few miles away."

Captain Ashman was on Saipan during the invasion by the American forces. He lived in a half-ruined Japanese house in the midst of what was once a village.

* * * *

Captain and Mrs. J. A. Campbell, of Beckley and Glen Rogers, have announced the birth of a daughter, Constance Finch Campbell, born November 25, 1944. Doctor Campbell is assigned to a station hospital at Venice, Florida.

* * * *

Lt. (jg) Paul J. Nutter (MC), USNR, of Clarksburg, formerly located at Quantico, Virginia, has been serving in the South Pacific as surgeon on an attack transport. He says he has the usual amount of work to do, with plenty of "fire-works."

* * * *

Lt. U. C. Lovejoy (MC), USNR, of Omar, writes from somewhere in the South Pacific that he received the State Medical Association's legislative bulletin nine days after it was mailed in Charleston.

"I have been getting The Journal for about a year now" he writes. "At first it took two to three months to reach me, but now it is coming through in four to five weeks.

"I'll spend another Thanksgiving and Christmas among these 'enchanted islands.' The living conditions have improved greatly during the past year and I now have a desk in my tent with a real electric light above it. We have forty-eight hour laundry service, which is quite an imporvement over the old bucket system. Had corn on the cob for chow several days ago. We get plenty of fresh vegetables from the Army's large farm here.

"I was greatly grieved to hear of the death of my good friend and classmate, Dr. E. Norval Carter, of Huntington.

"I look forward to reading the Journal each month, especially the section, "With Doctors in the Service."

Lieut. Lovejoy was promoted to his present rank in September, 1944.

* * * *

Commander Berlin B. Nicholson (MC), USNR, of Parkersburg, who has been stationed at Corps Evacuation Hospital No. 2, Camp Le Jeune, N. C., is now somewhere in the South Pacific.

* * * *

Capt. S. W. Goff, of Parkersburg, is with a hospital unit somewhere in the South Pacific.

* * * *

Lt. Commander Ray H. Wharton (MC), USNR, of Parkersburg, recently visited his home enroute from the Naval Hospital at Key West, Florida, to the West Coast.

* * * *

Capt. Leonard M. Eckmann, of South Charleston, has again written most interestingly of his experiences in France. His letter dated November 7, 1944, is as follows:

Dear Mr. Lively:

Here we go again, still in France, but quite a number of positions removed from where I last wrote to you. At present I am in an unpleasant mood, being in the midst of a reaction from one of those Army immuniation injections that always seems to turn up.

With cold weather on hand, plus an unreasonable amount of rain, our most pressing problem is that of shelter. The men at the guns are not as fortunate as those of us in headquarters. Nevertheless they have consistently provided surprisingly comfortable and warm huts for themselves. The amount of ingenuity they show in fixing up their kitchens (each gun crew cooks for itself) is considerable. They have been issued pyramidal tents, blankets, and overcoats, and stoves are on the way. But most of them already have stoves and seem to prefer their smaller tar-paper and mesh-wire homes to the tents, which are much larger and harder to keep warm.

Their pets are quite amusing. The commonest kind is a dog, always mongrel, and always good-natured. Since people eat a lot of rabbits in France, it was inevitabe that some of the crews adopt rabbits. One crew was adopted by a crow that has followed it all over France. The crow has become quite tame, but has a nasty temper and can peck quite forcibly. It likes to snip off the lighted ends of discarded cigarettes. Another crew has a big goose that solemnly waddles after the members and answers to the name of "Genevieve." And at one place I saw two full grown chickens that the men had raised from chicks. They told me that they were waiting until Thanksgiving, and if they get no turkey, well, I guess the chickens will go.

We are more fortunate this time in our choice of headquarters. We're living in a village of 600 people, located on a river that's been dammed, providing waterpower and electricity. The building we're using was originally built as an old folk's home, but the French Army used it first, and the Germans used it for three years. The local mayor said they took care of it quite well until just before they had to get in one big hurry. Before the Nazis left they blew up all the bridges in the town, wrecked the three generators of the hydro-electric plant, banged and messed up the building, took a number of older boys of the town with them, and shot a number of the inhabitants. The FFI stayed in the building for two days and left one awful mess. We followed the FFI and our men did a tough job of cleaning out a tremendous amount of straw, which they burned. It was about the worst mess I've ever seen, but the place is clean now, with no trace of vermin. We have fairly reliable lights, running water in each room, with hot and cold water, a central heating unit with a radiator in each room, bathtubs, and flush toilets. I still can hardly believe it myself.

The people in the town have been very cordial to us. In return, we've practically depleted their supplies of perfumes and wooden shoes. I've emptied the hardware stores of wire brushes and electric light bulbs for the gun batteries located in more remote places.

They are still a "have not" people here in France. Primarily they lack transportation to bring in new supplies. Bread is strictly rationed, and a month's supply of butter lasts about four days. Their tobacco is extremely scarce and of poor quality.

Medical supplies are practically non-existent in some places, a bit more plentiful in the bigger cities. I've treated a couple of kids whose legs were wrapped with crepe paper in place of bandage.

In turn, our forces have taken quite a lot of stuff from the Germans. In our PX we have been able to buy razors, blades, lighters, cigars, and writing paper, all made in Germany. By means of some rather involved and complicated swapping, I acquired a real good aneroid sphygmomanometer of Nazi vintage. But the best deal was the one that got me a 4-passenger sedan, of French manufacture, but used by the Germans. It has been put in good shape and we use it quite a bit for inspection purposes in the battalion. The car is tiny, but I can't get used to looking up at cows we pass along the highway. If we were to hit one, I'm not too sure about the cow, but I feel certain the car would give.

Several weeks ago some of us officers were invited to a dinner given by the officers of a newly-organized French infantry regiment. The great majority of the officers originally were FFI and brought their men into the Army with them. For several weeks I was the only medical officer they had, and I guess that was the main reason for the festivities. We have never seen a tougher looking bunch of men. They entertained us royally. Each course was served individually and took a very long time. They offered about six kinds of wines, champagne, cognac, and maybe other drinks. Each officer tried to entertain by singing or telling funny anecdotes, which we didn't understand. A sergent played tunes on the flute, only one of which I appreciated, "Tiger Rag." At the close, he played "Lo Marseillaise" and apparently because he didn't know our national anthem, he puffed out "Stars and Stripes Forever."

Some of the stories these FFI told were hair-raising. One man killed 22 Germans, including an S. S. general. One parachuted into France from England after having escaped from a German concentration camp, and among other things blew up six ammunition trains in France. And, there were other stories, but I guess that's enough.

Sincerely,

Leonard M. Eckmann.

Obituaries

ROBERT MARTIN AKERS, M. D.

Dr. Robert Martin Akers, 60, of Kermit, died in a hospital at Huntington, November 24, 1944, of a heart ailment. He had been in ill health for several years, but entered the hospital five days before his death.

Doctor Akers was born March 30, 1884, in Johnson County, Kentucky. He received his degree of M. D. in 1910 at Lincoln Memorial University, Knoxville, Tennessee, and was licensed in West Virginia in 1912, since which time he had practiced his profession in this state. He was on the medical staff of the Norfolk and Western Railway at Kermit, and had served as mayor of that city for two terms. He was an honorary member of the American Medical Association, the West Virginia State Medical Association and the Mingo County Medical Society. He was a 32nd degree Mason and a Shriner.

He is survived by his widow; a son, Capt. R. H. Akers, now serving in the Medical Corps of the Army in the South Pacific; and two daughters, Mrs. C. F. Shewey, of Kermit, and Mrs. W. R. Burns, of Coeur d'Alene, Idaho.

MAJ. MICHAEL A. RAFFERTY, MC

Major Michael Alphonse Rafferty, MC, of Weston, was killed in line of duty on November 24, 1944, in Northern Belgium. He was in charge of the laboratory section of a general hospital, and it is assumed that the hospital was destroyed by a robot bomb on that day.

Major Rafferty had gone overseas just a few months previous to his death. He was born in Lewis County on December 24, 1903, and received his early education at St. Patrick's high school, Weston, and at West Virginia University, Morgantown. He graduated from Rush Medical College of the University of Chicago in 1937, and was licensed to practice medicine in West Virginia in 1940. He obtained the degree of Pharmaceutical Chemist from West Virginia University School of Pharmacy in 1929, and was associate professor of biochemistry at the School of Medicine for some months. He interned at St. Luke's Hospital, Cleveland, and took postgraduate work at the University of Michigan and the University of Arkansas.

Major Rafferty was a former member of the Monongalia County Medical Society and the State Medical Association, and at the time of his enlistment in the medical corps of the Army he was engaged in chemical research work at Elkhart, Indiana.

CLARKE WESLEY SHEPHERD, M. D.

Dr. Clarke Wesley Shepherd, 81, of Spring Hill, Kanawha County, died in a Huntington Hospital, December 18, 1944, of diseases incident to old age.

Doctor Shepherd, who was born in Charleston, graduated from Baltimore University School of Medicine in 1891, and was licensed to practice in West Virginia the same year. He located in the Spring Hill section and continued in practice there during his entire medical career. He is survived by his widow; a son, T. T. Shepherd, of Savannah, Georgia; a brother, A. R. Shepherd, of Spring Hill; and a sister, Miss Ella Shepherd, of South Charleston.

WILLIAM WALLACE NOYES, M. D.

Dr. William Wallace Noyes, 74, of Dunbar, died December 15, 1944, at the home of a daughter, Mrs. Marion T. Powers, of Cumberland, Maryland, following an illness of three years. He was licensed in 1903, and had practiced in the Kanawha area until his retirement because of ill health. Doctor Noyes, who was a native of Paris, Kentucky, studied medicine at Barnes University, St. Louis.

Besides his widow, he is survived by two daughters, Mrs. Marion T. Powers, and Mrs. Ross N. Sanford, of Charleston; and a son, Pfc. William Clayton Noyes, now stationed at Fort Meade, Maryland.

LONGER LIFE FOR DIARISTS

A Mayo Foundation pathological anatomist is of the opinion that the keeping of a diary may have some practical use after all, may, in fact, result in prolonging life. Dr. H. W. Robertson wants people to keep diaries and to note their stomach aches, their bad colds, and any other symptoms that ocur. "Every individual who consults a doctor," he says, " presents blank spaces in his health history which, if they could be filled in, would be of inestimable value in the diagnosis as well as treatment of the illness at hand." Commenting, the New York Times says, "Many an obscure illness, or even sudden death might be avoided if Big Brother, Sis, Dad and Mother kept a diary. Dr. Robertson's remarks are even interperted to mean that one may keep a diary and live longer."

WEST VIRGINIA STATE MEDICAL ASSOCIATION

ROSTER OF MEMBERS BY SOCIETIES

(January 1, 1945)

BARBOUR-RANDOLPH-TUCKER

Ashworth, Glenn.....Philippi
*Bosworth, J. L.....Elkins
Butt, A. P.....Elkins
‡Chenoweth, P. C.....Elkins
‡Condry, R. J.....Elkins
‡Conrad, H. A.....Elkins
‡Euphrat, Edwin J.....Elkins
Golden, B. I.....Elkins
Goodwin, T. M.....Elkins
Gray, P. L.....Elkins
Hall, C. H.....Elkins
*Hamilton, E. M.....Belington
Harper, W. G.....Elkins
Houston, Robt. A.....Elkins
Huffman, Jacob S.....Harman
Jeffreys, Edna M.....Philippi
‡King, L. S.....Philippi
Levy, Fritz.....Elkins
Liggett, B. L.....Mill Creek
Lyon, F. K.....Parsons
‡Main, Emory H.....Philippi
‡Martin, Joseph E.....Elkins
Maxwell, M. H.....Elkins
Michael, G. H.....Parsons
Miller, J. L.....Thomas
Moore, S. G.....Harper's Ferry
Moyers, Emmet D.....Norton
‡Murphy, Franklin B.....Philippi
‡Myers, E. E.....Philippi
Myers, H. C.....Philippi
‡Myers, Junior.....Philippi
Myers, K. J.....Philippi
Nefflen, L. H.....Elkins
*Owens, H. K.....Elkins
Parker, H. S.....Thomas
‡Roberts, Donald R.....Elkins
Skar, S. J.....Davis
Small, Maurice J.....Parsons
Smith, W. S.....Philippi
Stroud, C. G.....Shinnston
Tabor, Jack H.....Dailey
Trippett, K. H.....Galloway
‡Weisman, S.....Parsons
Whiteside, W. E.....Parsons
Whipple, Ralph U.....Elkins
Woodford, J. R.....Philippi
‡Woodford, T. L.....Belington

BOONE

Aliff, Paul.....Montcoal
‡Ballard, O. D.....Van
Barbour, W. L.....Whitesville
Calfee, W. R.....Whitesville
Glover, A. E.....Madison
Harless, W. F.....Madison
Hill, David H.....Madison
Hunter, R. L.....Madison
Jackson, Edwin D.....Van
Lewis, A. C.....Seth
Pauley, D. F.....Jeffrey
Prather, F. G.....Wharton
Wilkerson, W. V.....Prenter
Wilson, I. O.....Highcoal

BROOKE

‡Booher, W. T.....Wellsburg
‡Hegner, H. L.....Wellsburg
Huth, Leo.....Follansbee
‡Jacob, S. S.....Bethany
Matson, F. L.....Wellsburg
Megahan, C. R.....Follansbee
McGraw, Ralph.....Follansbee
McMullen, J. P.....Wellsburg
Otte, R. C.....Wellsburg
Palmer, J. B.....Wellsburg

CABELL

Baber, J. H.....Huntington
Barker, J. F.....Huntington
‡Beard, H. E.....Huntington
Beckner, W. F.....Huntington
Biern, O. B.....Huntington
Bloss, J. R.....Huntington
Bobbitt, R. M.....Huntington
‡Boso, Clarence H.....Huntington
Bourn, W. D.....Barboursville
Brandabur, J. J.....Huntington
Brown, B. F.....Huntington
Brown, F. A.....Huntington
‡Brown, J. R.....Huntington
*Bruns, W. F.....Ceredo
‡Calvert, R. L.....Chelyan
Chambers, V. L.....Huntington
Christian, Leo.....Huntington
‡Claiborne, W. L.....Huntington
Clay, C. Stafford.....Huntington
‡Coffey, F. L.....Huntington
‡Cook, J. R.....Huntington
‡Coplin, Robt. W.....Huntington
*Crews, A. W.....Huntington
Cronin, D. J.....Huntington
Curry, R. H.....Barboursville
‡Daniels, W. F.....Huntington
Dodson, Ross.....Huntington
‡Duncan, C. S.....Huntington
‡Evans, Edward J.....Huntington
Farnsworth, F. F.....Milton
Ferguson, J. W.....Kenova
Folsom, T. G.....Huntington
Ford, C. P. S.....Huntington
‡Ford, J. C.....Huntington
‡Gang, L. B.....Huntington
‡Garred, E. W.....Milton
Garrett, B. D.....Kenova
Genge, Cole D.....Huntington
Gerlach, E. B.....Huntington
Gibson, A. P.....Huntington
Grimm, W. O.....Huntington
Guthrie, J. A.....Huntington
Hamilton, O. L.....Huntington
Hardman, J. C.....Fort Worth (Texas)
*Hardwick, R.....Huntington
Harwood, I. R.....Huntington
Hatfield, H. D.....Huntington
Hawes, C. M.....Huntington
Hayman, J. S.....Huntington
*Hereford, W. D.....Huntington
*Hicks, I. C.....Huntington
Hines, N. F.....Huntington
Hirschman, I. I.....Huntington
Hodges, F. C.....Huntington
Hoffman, C. A.....Huntington
Hoitash, F. J.....Huntington
Hubbard, J. E.....Huntington
‡Humphrey, E. J.....Huntington
‡Hunter, W. B.....Huntington
Hutchison, J. L.....Huntington
Irmen, F. A.....Huntington
Jaskiewicz, C. F.....Huntington
Johnson, G. D.....Huntington
Jones, A. S.....Huntington
Kappes, W. C.....Huntington
Kessler, A. D.....Huntington
Ketchum, Dorsey.....Huntington
‡Klumpp, J. S.....Huntington
Lusher, H. V.....Huntington
‡Lyon, G. M.....Huntington
*MacKenzie, A. R.....Huntington
Marple, F. O.....Huntington
‡Martin, W. B.....Huntington
McClellan, G. O.....West Hamlin
‡Meek, E. M.....Huntington
Moore, J. Hallock.....Huntington
Moore, L. J.....Huntington
Moore, M. B.....Huntington
Moore, T. W.....Huntington
Morrison, G. C.....Huntington
‡Muller, H. E.....Huntington
Neal, W. E.....Huntington
‡Neal, W. L.....Huntington
Parsons, W. J.....Huntington
Plymale, Clarence.....Huntington
‡Polan, Chas. M.....Huntington
Porter, W. J.....Wayne
Ratcliff, G. A.....Huntington
Reaser, E. F.....Huntington
Reynolds, C. O.....Huntington
Reynolds, Otis E.....Huntington
Richmond, L. C.....Milton
Rife, J. W.....Kenova
Rose, E. E.....Huntington
Rowley, W. N.....Huntington
Rutherford, A. G.....Huntington
Schuller, F. X.....Huntington
‡Scott, F. A.....Huntington
Shafer, E. E.....Huntington
Silver, Harry.....Milton
Sloan, R. M.....Huntington
Smith, Harry A.....Huntington
Steenbergen, J. H.....Huntington
Stevens, Richard J.....Huntington
Stevens, Sarah L. C.....Huntington
Stotts, Roscoe.....Kenova
‡Strange, W. W.....Huntington
Swann, W. C.....Huntington
Taylor, C. T.....Huntington
‡Taylor, Ewen.....Huntington
Taylor, I. W.....Huntington
Van Metre, R. S.....Huntington
Vest, W. E.....Huntington
Walden, G. W.....West Hamlin
‡Weinstein, Stanley.....Huntington
Wilkinson, R. J.....Huntington
Willis, C. A.....Huntington
Willis, C. G.....Huntington
Wright, C. B.....Huntington
Wylie, R. M.....Huntington

CENTRAL WEST VIRGINIA**

*Allen, S. P.....Webster Springs
Andrew, H. M.....Weston
‡Bowyer, A. B.....Elkview
Brown, E. S.....Summersville
Brown, F. H.....Summersville
Brown, H. S.....Sutton
Burton, G. M.....Weston
Burton, S. H.....Weston
Cofer, J. M.....Bergoo
Cooper, E. R.....Weston
Corder, G. C.....Jane Lew
Cutright, R. G.....Buckhannon
Deeds, L. W.....Buckhannon

‡ In Military Service.
* Honorary Member.
** Includes former members of Lewis County Medical Society. Merger effected October 20, 1944.

Dodrill, J. B. . . . . Webster Springs
*Dunn, Hugh . . . . . Richwood
Eakle, J. C. . . . . Sutton
Eakle, O. O. . . . . Sutton
‡Echols, J. E. . . . . Richwood
Echols, W. E. . . . . Richwood
‡Ferrell, R. M. . . . . Webster Springs
Fisher, E. L. . . . . Gassaway
Fisher, R. M. . . . . Weston
Ford, R. J. . . . . Spencer
Forman, Worth B. . . . . Buckhannon
Garrison, Harry A. . . . . Weston
*Hall, E. T. W. . . . . Weston
‡Hartman, I. F. . . . . Buckhannon
Hill G. D. . . . . Camden-on-Gauley
Hill, L. O. . . . . Camden-on-Gauley
*Hudkins, O. L. . . . . Weston
‡Huffman, J. C. . . . . Buckhannon
Huffman, W. W. . . . . Oak Hill
Hunter, E. H. . . . . Webster Springs
*Kessler, D. P. . . . . Weston
*King, W. P. . . . . Weston
Lawson, A. F. . . . . Weston
Leef, J. L. . . . . Richwood
Long, A. E. . . . . Weston
‡McClung, James E. . . . . Richwood
McClung, James . . . . . Richwood
‡McClung, W. D. . . . . Richwood
Millman, T. H. . . . . Richwood
Morrison, M. T. . . . . Sutton
Nelson, William . . . . . Richwood
Page, B. L. . . . . Buckhannon
Peters, D. C. . . . . Richwood
Rohr, C. B. . . . . Alum Ridge
Rumisell, J. A. . . . . Buckhannon
‡Rumisell, J. A., Jr. . . . . Buckhannon
Smith, W. T. . . . . Glenville
Snaith, Theresa . . . . . Weston
*Snyder, George . . . . . Weston
Stalnaker, Guy . . . . . Glenville
Trinkle, E. A. . . . . Weston
Van Tromp, H. O. . . . . French Creek
*Walker, Everett . . . . . Adrian

DODDRIDGE

Poole, A. . . . . West Union
White, R. S. . . . . West Union

EASTERN PANHANDLE

‡Armentrout, A. W. . . . . Martinsburg
Bitner, E. H. . . . . Martinsburg
‡Clapham, R. E. . . . . Martinsburg
Dupuy, H. R. . . . . Winchester (Va.)
Eagle, A. B. . . . . Martinsburg
‡Fox, M. R. . . . . Charles Town
‡Glenn, Marshall . . . . . Charles Town
Glover, V. L. . . . . Martinsburg
Guthrie, J. K. . . . . Martinsburg
‡Haltom, W. L. . . . . Martinsburg
Hendrix, N. B. . . . . Martinsburg
Link, Vaughn . . . . . Shepherdstown
Martin, G. O. . . . . Martinsburg
McFetridge, S. Elizabeth . . Shepherdstown
Morison, G. P. . . . . Charles Town
Oates, Max . . . . . Martinsburg
Oates, T. K. . . . . Martinsburg
‡Porterfield, M. H. . . . . Martinsburg
Power, C. G. . . . . Martinsburg
‡Shaw, D. J. . . . . Berkeley Springs
Talbott, R. B. . . . . Martinsburg
Tonkin, H. G. . . . . Martinsburg
Van Metre, J. L. . . . . Charles Town
‡Wallace, W. A. . . . . Martinsburg
Wanger, Halvard . . . . . Shepherdstown
‡Warden, W. P. . . . . Charles Town

‡ In Military Service.
* Honorary Member.

‡Waters, Z. J. . . . . Baltimore, (Md.)
Willard, E. H. . . . . Berkeley Springs

FAYETTE

Bays, A. E. . . . . Montgomery
‡Becker, Philip L. . . . . Kimberly
Bilger, F. W. . . . . McComas
Bittinger, W. P. . . . . Summerlee
Brugh, B. F. . . . . Clearwater (Fla.)
Bundy, W. E. . . . . Oak Hill
‡Butterfield, D. L. . . . . Milburn
‡Cardey, N. L. . . . . Winona
Carter, Eugene S., Jr. . . . . Minden
Carter, J. Marshall . . . . . Glen Ferris
‡Crank, G. O. . . . . Lawton
Daugherty, T. B. . . . . Richmond (Va.)
Davis, W. B. . . . . Rainelle
‡Dickerson, L. A. . . . . Fayetteville
Englefried, C. H. . . . . Charleston
‡Feldman, John L. . . . . Longacre
Frazier, Claude . . . . . Winona
‡Friedman, Norman . . . . . Longacre
Gordon, P. L. . . . . Powellton
Harless, L. R. . . . . Gauley Bridge
*Henderson, O. J. . . . . Montgomery
Higginbotham, Upshur . . . . . Montgomery
Hodges, G .G. . . . . Mt. Hope
‡Hresan, M. G. . . . . Minden
Jackson, H. M. . . . . Brooklyn
‡Jarrett, J. N. . . . . Oak Hill
‡Jones, E. E., Jr. . . . . Mount Hope
King, W. E. . . . . Montgomery
Laird, T. K. . . . . Montgomery
Laird, William R. . . . . Montgomery
‡Lamb, R. M. . . . . Winona
Martin, H. C. . . . . East Rainelle
McGehee, M. W. . . . . Montgomery
Merriam, C. G. . . . . Page
Moore, M. A. . . . . Longacre
Moser, L. A. . . . . Charleston
‡Nolan, L. E. . . . . Montgomery
Nutter, E. V. . . . . Gauley Bridge
Peck, R. S. . . . . Cannelton
‡Peskoe, L. Y. . . . . Boomer
Pope, Thos. B. . . . . Kingston
Prillaman, P. E. . . . . Ronceverte
Puckett, B. F. . . . . Oak Hill
Reeves, J. N. . . . . Charleston
Roark, J. L. . . . . So. Charleston
*Shaffer, J. S. . . . . Montgomery
*Shirkey, D. W. . . . . Montgomery
Skaggs, H. C. . . . . Montgomery
Smith, G. A. . . . . Montgomery
Stallard, C. W. . . . . Montgomery
Thompson, E. B. . . . . Montgomery
Thompson, J. B. . . . . Oak Hill
Troutman, H. F. . . . . Logan
‡Updike, R. A. . . . . Montgomery
Watkins, C. E. . . . . Harvey

GREENBRIER VALLEY

‡Caldwell, Geo. M. . White Sulphur Springs
Compton, J. W. . . . . Ronceverte
Ferrell, A. D. . . . . Ronceverte
Gunning, H. D. . . . . Ronceverte
Hamrick, K. J. . . . . Marlinton
*Hinsdale, Guy . . . . . Charlottesville, (Va.)
Jackson, C. C. . . . . East Rainelle
*Kirkpatrick, H. L. . White Sulphur Springs
Lanham, A. G. . . . . Ronceverte
Leech, J. G. . . . . Quinwood
Lemon, C. W. . . . . Lewisburg
Mahood, C. F. . . . . Alderson
‡Mamick, Stephen . . White Sulphur Springs
Matney, T. G. . . . . Peterstown
‡McCauley, E. W. . . . . Rainelle
McClintic, C. F. . . . . Williamsburg
McFerrin, S. A. . . . . Renick
Myles, W. E. . . . . White Sulphur Springs
Preston, D. G. . . . . Lewisburg
‡Todd, L. B. . . . . Quinwood
Wall, C. I. . . . . Rainelle
Williams, L. . . . . Beelick Knob

HANCOCK

‡Beaumont, G. L. . . . . New Cumberland
Bogarad, M. . . . . Weirton
‡Boggs, Edward H. . . . . Hinton
Brand, J. M. . . . . Chester
‡Bruce, T. H. . . . . New Cumberland
Fisher, J. E. . . . . New Cumberland
Focer, R. L. . . . . Weirton
‡McNinch, E. R. . . . . Weirton
‡Moore, B. J. . . . . Chester
‡Polen, F. E. . . . . Hollidays Cove
‡Prioletti, V. . . . . Weirton
Richmond, J. E. . . . . Weirton
Rigas, George S. . . . . Weirton
Rinehart, A. B. . . . . Weirton
Schwartz, L. O. . . . . Weirton
Slate, T. A. . . . . Hollidays Cove
Thompson, J. L. . . . . Weirton
Whitaker, L. A. . . . . Weirton
Wolpert, Milton . . . . . Chester
‡Yurko, Anthony . . . . . Hollidays Cove

HARRISON

‡Allman, W. H. . . . . Clarksburg
Brake, B. S. . . . . Clarksburg
Brannon, E. H. . . . . Bridgeport
Brennan, J. T. . . . . Clarksburg
Carder, J. R. . . . . Clarksburg
Chandler, F. C. . . . . Bridgeport
Coffindaffer, R. S. . . . . Shinnston
Cruikshank, D. P. . . . . Lumberport
Davis, Edward . . . . . Salem
Davis, W. M. . . . . Bridgeport
*Esker, H. H. . . . . Clarksburg
‡Evans, G. F. . . . . Clarksburg
‡Ferrell, Marcus E. . . . . Clarksburg
‡Fisher, C. F. . . . . Clarksburg
Flowers, Earl N. . . . . Clarksburg
*Flowers, Edward Newton . . . . Clarksburg
*Folk, John . . . . . Bridgeport
‡Genin, F. G. . . . . Clarksburg
‡Gilman, Joseph . . . . . Clarksburg
‡Gocke, Jack T. . . . . Clarksburg
Gocke, Thomas . . . . . Clarksburg
Gocke, W. T. . . . . Clarksburg
‡Golz, H. H. . . . . Clarksburg
Grant, Sylvia S. . . . . Park
Greer, C. C. . . . . Clarksburg
‡Hall, S. S. . . . . Clarksburg
Hanifan, R. K. . . . . Clarksburg
Harris, T. G. . . . . West Milford
Haynes, H. H. . . . . Clarksburg
‡Hess, D. S. . . . . Shinnston
*Hill, E. A. . . . . Clarksburg
Hodge, Ben E. . . . . Clarksburg
‡Humphries, R. T. . . . . Clarksburg
Jackson, Kenna . . . . . Clarksburg
Jarvis, C. C. . . . . Clarksburg
Kelly, A. O. . . . . Wallace
Kemper, A. J. . . . . Lost Creek
Kerr, John C. . . . . Clarksburg
Ladwig, O. W. . . . . Wilsonburg
Langfitt, F. V. . . . . Clarksburg
Lembright, J. F. . . . . Clarksburg
Linger, R. B. . . . . Clarksburg
Lough, D. H. . . . . Clarksburg
‡McCuskey, John F. . . . . Clarksburg
McGuire, J. P. . . . . Clarksburg
Mills, L. H. . . . . Clarksburg
Neal, L. E. . . . . Clarksburg
‡Nutter, Paul J. . . . . Clarksburg
‡Nutter, R. B., Jr. . . . . Lumberport
Nutter, R. J. . . . . Clarksburg
*Ogden, C. R. . . . . Clarksburg

Owens, W. T. . . . . Clarksburg
Page, J. E. . . . . Clarksburg
*Pendleton, E. . . . . Clarksburg
Pletcher, R. O. . . . . Lost Creek
Post, A. T. . . . . Clarksburg
Post, C. O. . . . . Clarksburg
Post, S. H. . . . . Volga
‡Ralston, James . . . . . Clarksburg
Repass, James . . . . . Lumberport
‡Riheldaffer, Wm. H. . . . . Romney
*Riley, R. M. . . . . Nutter Fort
Ritter, E. E. . . . . Salem
Rose, George W. . . . . Clarksburg
Slater, C. N. . . . . Clarksburg
Sloan, H. E. . . . . Clarksburg
Spelsburg, W. W. . . . . Clarksburg
Stephenson, J. E. . . . . Clarksburg
Strother, W. L. . . . . Salem
Thomas, H. V. . . . . Clarksburg
Tucker, E. D. . . . . Nutter Fort
Waddell, R. L. . . . . Sparta (N. C.)
‡Weaver, Andrew J. . . . . Clarksburg
*Wehner, E. F. . . . . Clarksburg
Whisler, H. A. . . . . Clarksburg
Wilkinson, B. W. . . . . Clarksburg
Williams, J. F., Jr. . . . . Clarksburg
Wilson, J. E. . . . . Clarksburg
‡Wilson, James E., Jr. . . . . Clarksburg
‡Wornal, L. S. . . . . Shinnston
Wright, E. B. . . . . Clarksburg
Wright, W. B. . . . . Clarksburg
‡Zinn, L. D. . . . . Clarksburg

KANAWHA

Albrecht, M. . . . . Charleston
Amick, A. E. . . . . Charleston
*Amick, A. L. . . . . Charleston
*Anderson, Maury . . . . . Dunbar
Anderson, R. L. . . . . Charleston
Angell, H. W. . . . . Charleston
Angstadt, N. G. . . . . Charleston
‡Ashman, H. . . . . Gallagher
Baer, R. E. . . . . South Charleston
Bailey, H. A. . . . . Charleston
Bailey, R. W. . . . . Hurricane
‡Baldock, H. E. . . . . Charleston
Banks, J. Bankhead . . . . . Charleston
Barber, D. N. . . . . Charleston
Barber, T. M. . . . . Charleston
‡Basman, Jack . . . . . Charleston
Baum, Henry . . . . . Charleston
Beddow, H. M. . . . . Charleston
‡Bivens, S. L. . . . . Charleston
Black, W. P. . . . . Charleston
Blagg, B. V. . . . . South Charleston
Blake, T. H. . . . . St. Albans
Bobbitt, O. H. . . . . Charleston
‡Boiarsky, Julius . . . . . Charleston
Bonar, M. L. . . . . Charleston
‡Bradford, Bert, Jr. . . . . Charleston
Brady, A. S., Jr. . . . . Charleston
‡Brick, John P. . . . . Charleston
Brown, H. M. . . . . Charleston
*Brown, R. J. . . . . Charleston
Buff, I. E. . . . . Charleston
Buford, R. K. . . . . Charleston
Bull, S. W. . . . . Spencer
Burdette, Rex A. . . . . Charleston
Cannaday, J. E. . . . . Charleston
Capito, G. B. . . . . Charleston
‡Carlson, F. B. . . . . Charleston
Champe, Preston . . . . . Charleston
‡Chandler, A. C. . . . . Charleston
‡Churchman, V. T. . . . . Charleston
Clark, F. A. . . . . Charleston
‡Cooke, W. L. . . . . Charleston
*Copeland, C. E. . . . . Charleston
Cox, L. E. . . . . Charleston
Daniel, G. A. . . . . Belle
*Davis, E. A. . . . . Charleston
‡Dawson, R. O. . . . . Dunbar
DeBell, A. W. . . . . Malden
Dent, D. A. . . . . Charleston
Duling, M. S. . . . . Charleston
Dunlap, J. L. . . . . Nitro
Dunn, R. H. . . . . South Charleston
‡Eckmann, Leonard . . . . . South Charleston
Elkin, W. Paul . . . . . Charleston
Erwin, F. L. . . . . Burnwell
‡Escue, H. M. . . . . Charleston
Eves, F. P. . . . . Charleston
Fisher, H. H. . . . . Dunbar
Fleshman, C. M. . . . . Clendenin
Frame, R. I. . . . . Sharples
Frank, Ludwig . . . . . Charleston
Frazier, J. W. . . . . Charleston
Gerhardt, P. R. . . . . Charleston
‡Given, A. J. . . . . Rensford
Glass, H. R. . . . . Charleston
Glass, W. J. . . . . Sissonville
‡Glassman, Dan . . . . . Charleston
‡Godbey, J. R. . . . . Charleston
Gordon, A. T. . . . . Spencer
Gott, E. Fred . . . . . Charleston
‡Grace, J. E. . . . . Cabin Creek
Grisinger, G. F. . . . . Charleston
‡Groves, Owen A. . . . . Charleston
‡Hager, J. L. . . . . Charleston
‡Haley, John B. . . . . Charleston
‡Haley, P. A., II. . . . . Charleston
Halloran, R. O. . . . . Charleston
Hamrick, R. E. . . . . Charleston
Hamrick, R. S. . . . . St. Albans
Hardesty, W. L. . . . . Charleston
Harper, C. A. . . . . Clendenin
Harper, O. M. . . . . Clendenin
‡Hash, J. W. . . . . Charleston
Hayes, E. R. . . . . Chelyan
Heffner, G. P. . . . . Charleston
Henson, E. B. . . . . Charleston
‡Hill, H. M., Jr. . . . . Charleston
Hoffman, W. E. . . . . Charleston
Hoke, L. I. . . . . Nitro
Holcombe, V. E. . . . . Charleston
‡Houck, C. L. . . . . Carbon
Houck, M. R. . . . . Carbon
Howell, H. H. . . . . Madison
Hudgins, A. P. . . . . Charleston
Hunter, J. Ross . . . . . Charleston
Hutchinson, T. H. . . . . Malden
Iatesta, Mathew . . . . . Charleston
Ireland, R. A. . . . . Charleston
Irwin, G. G. . . . . Charleston
Jabaut, S. W. . . . . Shinnston
‡Jarrell, C. A. . . . . Belle
‡Jarrett, John T. . . . . Dunbar
Jarrett, L. A. . . . . Dunbar
‡Jones, Ralph J. . . . . Charleston
‡Jordan, E. V. . . . . Charleston
‡Kaufman, J. R. . . . . Charleston
Kessel, C. R. . . . . Ripley
‡Kessel, Ray . . . . . Charleston
‡Kessel, Russell . . . . . Charleston
Ketchum, R. D. . . . . Charleston
Lampton, Arthur K. . . . . Gallagher
Lance, V. L. . . . . Charleston
‡Laslie, J. C. . . . . Charleston
Law, H. D. . . . . Charleston
‡Lewis, C. E. . . . . Charleston
‡Lilly, Goff P. . . . . Charleston
Lilly, J. P. . . . . Charleston
Litton, A. C. . . . . Charleston
Litsinger, E. A. . . . . Charleston
Louft, R. R. . . . . Charleston
‡Lutz, John E. . . . . Charleston
Mace, V. E. . . . . Charleston
‡MacNamara, R. J. . . . . Charleston
‡Mantz, T. Paul . . . . . Charleston
‡Marquis, J. N. . . . . Charleston
‡Matthews, L. B. . . . . Charleston
McClue, A. E. . . . . Dunbar
McClure, U. G. . . . . Charleston
McKinley, C. Scott . . . . . Charleston
McLaughlin, Ralph . . . . . Charleston
*McMillan, W. A. . . . . Charleston
McMillan, W. O. . . . . Charleston
McPherson, H. D. . . . . Eskdale
Mendeloff, M. I. . . . . Charleston
Mican, H. M. . . . . Charleston
Milhoan, A. W. . . . . Nitro
Miyakawa, George . . . . . Charleston
Morison, O. N. . . . . Charleston
Mynes, L. H. . . . . Charleston
Nale, T. W. . . . . Charleston
‡Newhouse, N. H. . . . . Charleston
Niedermyer, J. W. . . . . Charleston
‡Palmer, G. F. . . . . Charleston
Peck, Earl M. . . . . Charleston
Pence, R. E. . . . . South Charleston
‡Peters, J. T. . . . . South Charleston
‡Peterson, V. L. . . . . Charleston
*Phillips, S. H. . . . . St. Albans
Point, W. W. . . . . Charleston
‡Pollock, B. H. . . . . Charleston
‡Polsue, W. C. . . . . Charleston
Preiser, Phillip . . . . . Charleston
‡Press, Edward W. . . . . Charleston
Price, A. M. . . . . Charleston
Price, R. B. . . . . Charleston
‡Pushkin, Willard . . . . . Charleston
Putschar, W. J. G. . . . . Charleston
Reed, T. G. . . . . Charleston
‡Reel, F. C. . . . . Charleston
‡Revercomb, P. H. . . . . Charleston
Ritter, H. H. . . . . Charleston
Robertson, G. C. . . . . Charleston
Robertson, H. L. . . . . Charelston
*Robertson, W. B. . . . . Kearneysville
Robertson, W. S. . . . . Charleston
Robins, J. E., Jr. . . . . Charleston
Robinson, J. H. . . . . Charleston
Rohr, J. U. . . . . Charleston
Rucker, J. E . . . . . Charleston
*Schoolfield, G. C. . . . . Charleston
Scott, C. N. . . . . Nitro
Seletz, A. A. . . . . Charleston
Selman, J. H. . . . . Charleston
Seltzer, Jos. P. . . . . Charleston
‡Shamblen, Earle . . . . . Charleston
Shawkey, A. A. . . . . Charleston
‡Shepherd, E. M. . . . . Charleston
Shepherd, W. S. . . . . Charleston
Shirkey, W. F. . . . . Charleston
Skaggs, J. S. . . . . Montcoal
Skaggs, J. W. . . . . Nitro
Smith, A. A. . . . . Clay
Smith, B. A. . . . . Spencer
‡Smith, C. B. . . . . Charleston
Souleyret, S. B. . . . . Coalburg
‡Soulsby, P. C. . . . . Pratt
Spencer, Tracy N., Jr. . . . . So. Charleston
Squire, E. W. . . . . Charleston
‡Staats, Charles . . . . . Charleston
Stanley, L. P. . . . . Charleston
Stewart, W. C. . . . . Charleston
‡Strickland, L. N. . . . . Widen
Stork, A. R. . . . . Charleston

‡ In Military Service.
* Honorary Member.

‡Swart, H. A. ... Charleston
Swint, B. H. ... Charleston
Thompson, H. G. ... Charleston
‡Thornhill, W. A., Jr. ... Charleston
‡Tuckwiller, P. A. ... Charleston
Vaughan, E. O. ... St. Albans
‡Ward, Harold W. ... Sutton
Watts, C. N. ... Charleston
Webb, R. L. ... Charleston
Whiteside, C. T. ... Kayford
Wilson, A. A. ... Charleston
Wilson, W. B. ... Charleston
*Wilson, W. H. ... St. Albans
Woodall, R. E. ... Charleston
Work, W. F. ... Charleston

LEWIS**

LOGAN

Altizer, A. E. ... Accoville
*Aultz, L. L. ... Ward
‡Bonar, Robert R. ... Whitman
‡Bond, Dewitt T. ... Amherstdale
Bond, E. M. ... Louisville, (Ky.)
‡Brammer, F. E. ... Dehue
Brewer, W. E. ... Logan
Brown, C. Leonard ... Holden
Carney, J. W. ... Logan
Combes, L. G. ... Holden
Davis, C. A. ... Logan
Deason, V. A. ... Logan
Farley, H. H. ... Logan
‡French, A. M. ... Logan
Gibson, B. R. ... Omar
Hamilton, W. P. ... Chapmanville
Hively, H. D. ... Ward
Jamison, Frank ... Dehue
Klausman, Wm. A. ... Anjean
‡Kruger, I. M. ... Logan
Lawson, L. W. ... Logan
*Lawson, S. B. ... Logan
‡Layman, L. H. ... Holden
‡Lovejoy, U. C. ... Omar
Lyons, J. W. ... Holden
Matthews, W. E. ... Durham (N. C.)
McClellan, W. T. ... Ethel
‡Nelson, E. R. ... Logan
Parker, W. H. ... Braeholm
Patterson, J. L. ... Holden
Poling, Owen ... Eskdale
Quaintance, R. W. ... Slate Mills (Va.)
Roberts, R. W. ... Man
*Round, F. L. ... Holden
Rowan, W. S. ... Logan
Rubisoff, Reuben ... Columbia (Miss.)
Scott, Robert K. ... Lorado
Smith, B. D. ... Amherstdale
Smith, T. C. ... Slagle
‡Starcher, E. H. ... Earling
Steele, L. E. ... Logan
Sutphin, Mark ... Logan
Traul, J. B. ... Ward
Thornbury, J. W. ... Man
Traul, R. E. ... Logan
Van Hoose, Harold ... Mallory
Vaughn, R. R. ... MacBeth

MARION

‡Baron, L. E. ... Mannington
Barr, J. M. ... Worthington
‡Blanton, J. L. ... Fairmont
Bonnar, James M. ... Fairmont
Bressler, David ... Monongah
*Brownfield, G. H. ... Fairmont
Carter, C. J. ... Fairmont
Causey, H. D. ... Fairmont
Clinton, J. B. ... Fairmont
Collins, J. C. ... Fairmont
Criss, H. L. ... Fairmont
‡Evans, Geo. T. ... Fairmont
Falconer, H. S. ... Fairmont
‡Fleming, H. C. ... Fairmont
‡Frye, R. R. ... Mannington
Hamilton, D. D. ... Mannington
Helmick, John P. ... Fairmont
Hickson, Edward W. ... Fairmont
*Holland, C. L. ... Fairmont
Holland, E. A. ... Fairmont
Jenkins, J. J. ... Farmington
Jenkins, J. J., Jr. ... Farmington
*Johnson, H. R. ... Fairmont
‡Johnson, Philip ... Fairmont
‡Jones, R. Harold ... Fairmont
Keister, H. S. ... Fairmont
Kinney, C. L. ... Ida May
‡Lambert, L. R. ... Charleston
Lawson, C. S. ... Fairmont
*Leahy, W. J. ... Mannington
‡Mallamo, J. T. ... Fairmont
Miller, G. R. ... Fairview
Moore, P. G. ... Mannington
Morgan, G. V. ... Fairmont
Norris, L. D. ... Fairmont
Nunnally, Wm. Ord ... Fairmont
Offner, J. E. ... Charleston
Orr, W. W. ... Rachel
Parks, C. L. ... Fairmont
‡Parks, Seigel W. ... Fairmont
Ramage, C. M. ... Fairmont
Rogers, F. B. ... Fairmont
Romino, J. D. ... Fairmont
Sowers, F. F. ... Fairmont
Spencer, L. O. ... Fairmont
Swisher, K. Y. ... Fairview
*Trach, J. M. ... Fairmont
Trach, J. P. ... Fairmont
Traugh, G. H. ... Fairmont
Tuckwiller, J. R. ... Fairmont
Vacheresse, Edw., Jr. ... Fairmont
‡Van Horn, K. L. ... Fairmont
Welton, W. A. ... Fairmont
Wise, E. D. ... Fairmont
Wright, E. O. ... Fairmont
Yost, Herschel R. ... Fairmont
Yost, Joe ... Fairmont
Yost, Paul ... Fairmont

MARSHALL

‡Ashworth, Harold ... Moundsville
Ashworth, R. A. ... Moundsville
Benson, Don S. ... Moundsville
‡Boggs, W. C. ... Wheeling
Bone, B. F. ... Moundsville
‡Bradford, Wm. P. ... Moundsville
Covert, O. F. ... Moundsville
*Fortney, M. J. ... Hundred
Grimm, R. B. ... Cameron
Hartwig, W. B. ... Wheeling
Hill, W. G. C. ... Moundsville
Kaufman, Edward L. ... McMechen
Luikart, J. H. ... Moundsville
‡McIlvain, W. E. ... Moundsville
Peck, J. C. ... Moundsville
Striebich, J. A. ... Moundsville
Wilson, O. P. ... Moundsville
Yoho, S. F. ... Moundsville

MASON

Bryant, R. F. ... New Haven
Koenigsberg, M. ... Pt. Pleasant
McElfresh, Edward V. ... Pt. Pleasant
Petty, C. W. ... Hartford

MERCER

‡Bertling, M. H. ... McComas
Bird, Ben W., Jr. ... Princeton
Blaydes, J. E. ... Bluefield
Calvert, J. W. ... Lamar
Clements, B. S. ... Matoaka
Connell, H. R. ... Bluefield
‡Davis, H. C. ... Bluefield, (Va.)
Davidson, S. G. ... Bluefield
Fowlkes, R. H. ... Bluefield
Fox, J. Francke ... Bluefield
Fox, P. R. ... Richmond (Va.)
‡Fugate, R. C. ... Bluefield
Gammage, F. V. ... Bluefield
‡Gage, E. L. ... Bluefield
Goodall, F. C. ... Princeton
‡Hale, Daniel ... Princeton
Hare, O. S. ... Bluefield
Holroyd, F. J. ... Princeton
Horton, E. W. ... Bluefield
Hosmer, D. L. ... Bluefield
Hughes, C. R. ... Bluefield
‡King, O. G. ... Bluefield
Lepper, D. B. ... Bluefield
Luttrell, H. B. ... Delaplane (Va.)
Markell, J. I. ... Princeton
McGuire, John ... Bluefield
‡Pace, L. J. ... Princeton
Peters, I. T. ... Princeton
Reynolds, C. J. ... Bluefield
Richmond, F. S. ... Bluefield
Rogers, R. O. ... Bluefield
St. Clair, C. T. ... Bluefield
St. Clair, C. T., Jr. ... Bluefield
St. Clair, W. H. ... Bluefield
St. Clair, W. H., Jr. ... Bluefield
Shanklin, J. R. ... Bluefield
Sinclair, M. W. ... Bluefield
Slusher, W. C. ... Bluefield
Steele, H. G. ... Bluefield
Stuart, R. R. ... Bluefield
Tanner, E. M. ... Bluefield
Todd, G. L. ... Princeton
‡Todd, G. L., Jr. ... Princeton
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SURGICAL EXPERIENCE IN A CONTINENTAL NAVAL HOSPITAL*

By LT. COMDR. JOHN O. RANKIN, (MC), USNR

A PHYSICIAN entering the military service has no assurance that it will be possible for him to practice his specialty. Regardless of his qualifications, he will be used where the need is greatest. Due to the frequent shifting of personnel, it is obviously impossible for a man always to be assigned to his own field. It has been my impression, though, that the commanding officers of naval hospitals make every effort to utilize the talent available as efficiently as possible.

One of my executive officers once made the statement that the Navy would at least make good doctors out of lot of specialists. This, probably, will do no harm as men who practice in a limited field tend to develop a very narrow horizon as far as a knowledge of the general field of medicine is concerned.

We have an unwritten rule in our hospital that the men who are being transferred to sea or outside the continental limits, must do at least one appendectomy under surgical supervision. This applies, regardless of whether he be a general practitioner, internist, pathologist, pediatrician or otolaryngologist. He is thus provided with an opportunity to observe at first hand the appearance of an operating room, the conduct of the personnel, and experiences a close encounter with the abdominal visciera in its normal relation. While this may seem to be a preposterous idea, an emergency might arise where this meager experience would prove very valuable.

My assignment for the past year and a half has been confined to acting as the chief of the section on orthopedic surgery in a hospital of one thousand beds. During this time, we have encountered practically every type of fracture that is common to the skeletal system as well as other allied traumatic lesions.

About fifty per cent of our patients come from the three naval activities located in this area, the other fifty per cent being war casualties from the Pacific and European theaters.

We therefore have the opportunity of observing both fresh and old injuries which makes our problems varied and interesting.

This talk is not intended to be a scientific lecture, but a general discussion of some of the more interesting problems. It will probably not reveal anything new or dramatic, but I hope the procedures used and the results obtained will be at least of passing interest.

REDUCTION AND FIXATION OF FRACTURES

It may be said that the successful treatment of fractures depends on three cardinal principles: (1) realignment of the bony fragments in their normal anatomical position, (2) immobilization of these fragments until bony union is complete and (3)

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restoration of normal function of that portion of the body involved.

We have, generally speaking, three methods at our disposal for attaining these objectives: (1) closed reduction and fixation with splints, casts or traction, (2) reduction and fixation by one of the current pin units, notably, the Stader Anderson & Haynes appliances and (3) open reduction with internal fixation.

No one method is applicable to all fractures, yet each one is superior to the others when utilized in the properly selected cases. In other words, the operation should fit the patient instead of the patient fitting the operation.

The reduction of a fracture by closed methods is unquestionably the ideal procedure. Unfortunately, there are many types of fractures that cannot be properly treated by this method.

The addition in recent years of the various pin units to the surgeon's armamentarium has definitely increased our ability to handle properly certain types of fractures.

It is extremely important, however, that the surgeon who utilizes one of these appliances be not only familiar with its application but be able to judge properly what case is suitable for this method.

Unfortunately, one of these appliances has been so widely publicized by the press, that not only the public but many members of the medical profession have been led to believe that all that was necessary for its application was to place the apparatus in bed with the patient, and then by some mysterious manner the splint would apply itself, the fracture would be perfectly reduced; convalescence would be rapid and void of complications, and the patient would continue with his business or occupation oblivious of the fact that a fracture had ever occurred.

Complications that are commonly encountered with these appliances are: (1) distraction of fragments, (2) overriding of fragments, (3) malalignment, (4) nonunion and (5) osteomyelitis at the site of the pins.

Open reduction with internal fixation should be reserved for those cases that cannot be treated properly by closed methods. These are major operations. They should be performed by qualified surgeons with trained assistants. Their equipment should be modern and complete. Then and only then will these procedures be safe and the desired results realized.

It might be worth while to emphasize some of the important steps in open reductions.

There are prominent surgeons who advocate immediate operation. We feel that, all factors being considered, the ideal time is from seven to ten days after the injury. Swelling has then subsided, hemorrhage has been absorbed, the soft tissues have returned to somewhere near their normal condition and the skin can be more thoroughly sterilized. During this period of waiting, normal length and immobilization must be maintained by traction.

Certain rules should be observed during the operation. The soft tissues, particularly the muscles, should be handled gently, and if at the termination of the operation they appear dark and devitalized, a debridement should be done.

Great care must be exercised not to separate the periosteum from the cortex in manipulating the bone fragments.

We prefer to use only transfixion screws placed at several angles to retain the fragments. There are cases that require the use of plates. These plates should be long and wide enough to give ample fixation, never less than four screws being used, six screws being preferable in long bones. The screws must penetrate both cortices. Those nearest the fracture line should be at least one-half inch from the margin. To prevent distraction of the fragments and subsequent delayed union, care must be exercised so that the fragments are closely approximated before the plate is applied.

The hardware used must be an inert material such as vitallium. Sulfanilamide should be dusted into the wound at the termination of the operation.

Suture material should be small and nonabsorbable, such as cotton. Fixation by the use of wire, kangaroo tendon and fascia in large bones should be relegated to the scrap heap.

Casts that are applied after operation should be well padded and should extend to the next joint beyond the one proximal to the site of fracture.

All fractures of the femur should be immobilized in casts that extend from the nipple line to the toes on the affected limb and to the knee on the unaffected. The knee should be slightly flexed and the foot at 90 degrees to the leg.

Fractures of the humerus should be immobilized by a cast that includes both the arm and the body.

The cutting of large windows in casts over the

operative wound is to be discouraged because of the danger of the bone bowing at this point.

One or two days after operation, check x-rays should be taken in both the anteroposterior and lateral planes. These should be repeated every two or three weeks, until bony union is complete.

The observance of these suggestions will be of considerable value in obtaining good alignment and restoring normal function.

COMPOUND FRACTURE

A preponderance of the acute or fresh compound fractures that we are called upon to treat are similar to those encountered in civil life and not the type seen in a battle zone. Our base is primarily devoted to instruction, which means that these injuries are the result of falls, mechanical appliances and airplane crashes. Practically all of these patients are admitted to the hospital within a few hours from the time the injury occurred.

We are therefore provided the opportunity of instituting treatment within the optimal "time period" of six to eight hours.

Upon admission to the hospital any necessary procedures to combat shock are instituted, x-rays are taken and the patient is transported to the operating room.

Our anesthesia of choice is spinal for the lower extremities and pentothal for the upper.

The part is prepared as for any other operation after sterile gauze is placed in the wound. After the extremity is prepared, the sterile gauze is removed and the wound is copiously lavaged with saline and sterile drapes applied. A careful but thorough debridement is done. All instruments are discarded and new drapes applied.

The fracture is accurately reduced and retained in position with some type of internal fixation, preferably by vitallium screws or by transfixing pins or wires at a distance from the wound. Sulfanilamide is sprinkled freely throughout the wound. The soft tissues are closed without tension with a minimum of suture material. If the skin edges cannot be approximated, lateral incisions are made and the skin flaps undermined so that the original wound can be closed without tension. Vaseline dressings are placed over the tissues exposed by the transplanted skin flaps, and a closed plaster cast is applied.

The individual with a very dirty wound or one in which the time element is questionable, the treatment is the same except that the wound is packed with vaseline gauze instead of being closed.

These cases require mature surgical judgment and if there is any question about which procedure should be used, the latter method is indicated.

The Russians have reported a highly successful method of dealing with these fractures, even though they are several days old; the operation is performed in the usual manner to the point of closing. The wound is filled with sulfanilamide and sulfathiazole in the proportion of three to one. The skin edges are sutured to the deep fascia which everts the wound by elastic traction and provides a wide opening for drainage. No drains are inserted, and finally a nonpadded cast is applied to the extremity.

All of our cases are given a "booster shot" of tetanus toxoid and gas bacillus antitoxin. Sulfathiazole and sodium bicarbonate are started by mouth the next day in an equal dosage of from 90 to 120 grains in twenty-four hours. Daily sulfonamide blood levels are taken as we try to maintain a concentration of 5 to 8 milligrams. This is continued for a period of five to ten days. The fluid intake is maintained at not less than 3,000 cc. in twenty-four hours.

All of the cases we have closed have healed by primary union. There have been no cases of gas bacillus gangrene.

We prefer to cut a window in the cast at the site of the operative wound in the cases that have been packed open with vaseline gauze. This provides access to the wound for the daily change of dressings, abolishes the disagreeable odor which comes from the excessive wound secretions, and likewise prevents the soiling and softening of the cast which may lead to slipping of the bony fragments.

NONUNION OF FRACTURES

It is not our intention to enter into a long discourse on this subject as much time would be consumed and probably nothing new would be related.

We would like to enumerate briefly some of the causative factors of nonunion and point out what steps may be taken to avoid them. Generally speaking, there are two contributing causes: (1) general, and (2) local. The first may be disregarded as this is rarely the inciting factor.

The local factors are multiple and must be considered in more detail.

1. Interposition of soft tissues. This complication is more apt to occur in fractures of the long bones. It is obvious that union will not take place until these are removed and the bone fragments reapproximated.

2. Extensively comminuted fractures. Loss of blood supply to the central fragments with rupture and extensive displacement of the periosteum will readily explain the failure of the bones to unite. These cases will often require open reduction with careful replacement of the bone fragments and the periosteum if union is to occur. It is to be remembered that in so doing, a minimum amount of hardware should be used for fixation, or the objective of the procedure will be defeated by irritation from the metal.
3. Malposition. While we have known that overlapping or partially approximated fragments may result in nonunion, we have more recently discovered that distraction is a common cause. This has been known to have been brought about by the use of some form of skeletal traction, particularly, the various pin units that are now on the market. While this does not condemn thier use, extreme care must be exercised to prevent such an occurrence. It will be frequently necessary to release a small amount of the traction from time to time to keep the fragments in close apposition.
4. Frequent attempts at reduction. It has been our experience that patients who have undergone a number of unsuccessful attempts before reduction was accomplished are prone to be the victims of nonunion. We believe that failure to reduce a fracture by one or two closed manipulations is an indication for an open reduction.
5. Compound fractures. The two factors that contribute to failure of union are: (1) extensive separation of the periosteum from the bones and damage to the surrounding tissues, which definitely interferes with the blood supply to the fractured site. This can be demonstrated by means of serial x-rays showing bone absorption back to the attached periosteum, and (2) infection, which might be avoided by a properly performed debridgement and the instilling of the sulfa drugs.
6. Incomplete immobilization. This may be due to improperly applied internal and external fixation permitting movement. Plates that have only one screw should not be used in one fragment as the screw will act as a hinge. Short plates should be avoided in long bones. The screws that are used to attach plates should perforate both cortices of the bone. Plaster casts should extend to the next joint beyond the one that is adjacent to the fracture, the cast should not be removed nor weight bearing permitted until solid bony union is demonstrated by x-ray.

The majority of the factors contributing to nonunion that we have discussed are avoidable. It is therefore evident that much can be accomplished by surgeons treating fractures to lower the incidence of this complication.

The treatment of the ununited fracture has been fairly well standardized by the use of bone graft surgery. There are a variety of grafts that may be used, depending on the type and location of the fracture. Some form of an inlay or onlay graft is preferable. If the latter is used, there is the choice of the single or dual graft. There is considerable evidence that the use of the dual graft and the packing of the bone ends with medullary bone is superior to all other methods.

The use of vitallium screws instead of bone screws has shortened the time necessary to perform these operations as well as given a much firmer fixation of the graft to the fractured area. These screws do not cause any apparent interference with bony union.

The use of sulfa drugs has definitely abbreviated the "waiting period" in cases of nonunion from compound or infected fractures. Where it was not safe to proceed with a bone graft operation for six months to a year after drainage ceased, it now can be safely performed in two or three months.

FRACTURES OF THE CARPAL SCAPHOID

It is interesting to note that while this is a relatively uncommon fracture in civil life it is of frequent occurrence in military practice. In contradistinction, Colles' fractures are commonly seen in civil practice but rarely occur in men of military age. This phenomenon can be explained if one understands the anatomy of the wrist. The carpal scaphoid is composed of a long body with a narrow waist. The remaining carpal bones are more or less cuboidal in shape and more resistant to injuries.

The young man in military service is actively engaged in sports and exercises so that the muscles of his forearms are well developed and give added protection to the radius and ulna. A fall on or a blow to the hyperextended hand, if of enough force, will inevitably result in a fracture in the

FIGURE I — The first picture shows a defect in the ulna from a shrapnel wound. The second was taken after union had occurred by using dual onlay grafts.

weakest component of the wrist joint, which in the young male will be the central portion of the scaphoid. On the contrary, the individual engaged in a sedentary occupation will be the recipient of a Colles' fracture under like circumstances.

The exterior of the carpal scaphoid is comprised, for the most part, of articular surface. The only blood supply is received through the dorsum, and this chiefly by one artery entering at the midportion. Experience has demonstrated that the fracture usually occurs in the proximal half which means that the proximal fragment will be avascular. This is of considerable importance because the injury is so frequently overlooked and treated as a sprain, with the resultant disabling complications of nonunion, aseptic necrosis and traumatic arthritis. It is therefore extremely important that x-rays be made of all suspicious wrist injuries, the correct diagnosis established and proper treatment instituted.

The majority of these fractures will heal in twelve weeks by primary union if they are immediately immobilized in a well fitting plaster cast which extends from just below the elbow to the metacarpophalangeal joints of the fingers and to the tip of the thumb, with the wrist in slight hyperextention and 15 degrees radial deviation, and the thumb in complete abduction.

Unfortunately, the majority of these cases admitted to our hospital arrive weeks and even months after the fracture has occurred. By this time, the complications previously mentioned are present. These are the individuals who will frequently require some type of surgical intervention. Multiple drilling of the fragments has been done in cases of nonunion but this method has been largely supplanted by the use of a central bone graft. Excision of the proximal fragment may be necessary in case of aseptic necrosis. Complete excision of the scaphoid should not be performed.

Following the insertion of a bone peg, the same well fitting cast should be applied. This should be changed at intervals of one month and x-rays taken to observe the progress of healing. External fixation should be continued until solid bony union is demonstrated by x-ray. Cases of fresh fracture with displacement which are irreducible, should be treated by open reduction and fixation by a central bone graft or nonunion will certainly develop.

CARPAL-METACARPAL DISLOCATION

We have encountered one case of dislocation of the base of the first metacarpal with the greater multiangular. According to the literature, this is a very unusual dislocation and is particularly disabling to an individual in the armed forces. Slocum has reported one case and his operation to correct the deformity.

Our case occurred in a Marine corporal, 24 years of age. Three months prior to his admission to the hospital he had injured his right hand while boxing. by striking his opponent with the outstretched thumb. His symptoms were constant pain at the base of the thumb, and inability to abduct the digit. Examination revealed an atrophy of the thenar eminence. The thumb was held in adduction, the base was prominent and tender to touch. Pain was elicited when any attempt was made to move the thumb, particularly in abduction. X-ray revealed the dislocation.

Operation was performed as described by Slocum. The joint was exposed by a longitudinal incision over the longitudinal axis of the anatomical snuff box. The dislocated metacarpal was replaced after oblique drill holes had been made from the outer side of both bones into the joint. A second incision was made over the Palmaris longus tendon. A piece of this tendon was removed and threaded through the drill holes. The ends were folded over each other and sutured to form a capsule on the outer side of the joint. The thumb was kept immobilized in abduction for one month. The patient returned to a regular duty status eight weeks from the time of the operation. He was free of symptoms, and there was a normal range of motion. My only criticism of the procedure is that fascia lata could be more efficiently utilized to reconstruct the capsule andits use would eliminate one of the surgical scars on the arm.

FRACTURE OF METACARPAL BONES

This is an injury that is frequently encountered. It is considered a trivial affair because of the size of the bone involved, but, in reality, the end results as a rule are anatomically, functionally and cosmetically poor. These findings are exemplified by the prominence of the head of the metacarpal bone in the palm of the hand preventing the tight grasping of objects; the limitation of motion in extention of the finger, and the appearance of a depressed knuckle. The anatomical explanation for this deformity is the combined action of the interossei and lumbricales muscles pulling the distal fragment down into extreme flexion with a resultant convex bowing of the shaft on the dorsal surface of the

hand. Many types of splints and appliances have been devised, most of which do not actually correct the deformity. A noteworthy contribution toward the improvement of these results has been made by Captain Waugh of the United States Navy. His method is not difficult to utilize. The patient can continue with his occupation and the results are uniformly good. Briefly, the method is as follows:

In cases of fracture of the fifth metacarpal, the depressed head is restored to its normal position by manipulation and retained there by drilling a Kirschner wire through it into the head of the fourth. A plaster cast is applied from the middle of the forearm to the metacarpophalangeal joints incorporating the wire in it. After the cast dries the protruding wire is cut off. This maintains fixation of the fracture yet permits normal motion in the fingers.

Reduction of the fourth metacarpal is accomplished by drilling the Kirschner wire through the fifth, fourth and third. Fractures of the third are retained in position by drilling first through the second, then the third and fourth and finally, fractures of the second are maintained by drilling through the second and third metacarpal heads.

MARCH FRACTURE

This fracture is commonly seen in individuals in military service. It might be called a strain fracture as it occurs in individuals who are suddenly required to undergo unusual physical stress or strain. While this type of fracture may occur in almost any bone, it is most frequently noted in the metatarsals. There is no history of an acute injury. The average patient will relate a story of developing pain and swelling in his forefoot after prolonged walking on a hard surface or after extensive marching. This usually persists for days or even weeks before he seeks medical consultation. On examination, the pain and tenderness will be found to be localized to one area and will be definitely aggravated if an attempt is made to bend the bone. The examiner will usually note some localized swelling. X-ray will reveal a localized area of new bone. This has the appearance sometimes of a malignant sarcoma. The actual fracture line cannot always be seen. The treatment is confined to some type

FIGURE II — Radical dislocation of the base of the first metacarpal bone on the Greater Multangular before and after reduction. Retension is accomplished by the use of a section of the Palmaris Longus tendon.

of immobilization. We prefer to use a cast with a walking iron so that the patient may remain ambulatory.

DIASTASIS OF THE DISTAL TIBIA AND FIBULA

Rupture of the tibiofibular syndesmosis isa definite entity. It must be recognized at the time of the injury and proper steps taken to correct the displacement or a disability of serious proportions will result.

The actual pathology is a rupture of the interosseous ligament, with or without fracture of either malleolus. The astragalus is displaced laterally, with or without an impaction of the lateral articular surface of the tibia.

Failure to replace these structures will result in a malalignment between the astragalus and the tibia. There will be a varus deformity of the foot which will eventually terminate in a flat foot of an extreme degree and moderate to complete ankylosis of the tibioastragalar joint is the rule. Correction of the deformity at this stage can be usually accomplished only by performing an arthrodesis. This involves resection of the joint with some resultant shortening of the leg and almost complete limitation of motion of the ankle.

The x-ray findings are typical in this injury. The tibia and fibula are separated; a definite widening of the space between the internal malleolus and the medial side of the astragalus will be noted. There may be even an upward displacement of the lateral superior portion of the astragalus between the tibia and fibula.

We do not believe that the original displacement can be properly reduced without resorting to an open reduction. This is accomplished through a longitudinal incision over the distal end of the fibula. The fibula is replaced and maintained in its normal position by one or two long transfixion screws. This will automatically force the astragalus into its proper place. The foot and leg are immobilized in a plaster cast.

The adoption of certain rules should be observed when weight bearing is permissible. Physiotherapy and foot exercises are important. A Thomas heel should be placed on the shoe, a quarter-inch wedge is inserted on the inside of the heel, and a longitudinal arch support must be worn in the shoe. Walking with any type of footwear other than what has been enumerated is not permitted. We have found that adherence to these suggestions will materially decrease the possibilities of a post-traumatic flat foot. To reiterate, this is an injury, which if not recognized and properly reduced will result in a disability that will prevent the individual from pursuing a gainful occupation or his return to a regular duty status in the military service.

FRACTURE OF THE TIBIAL CONDYLES

Condylar fractures are divided into three types: (1) fractures of either the medial or lateral condyles of which the latter is the most common; (2) fracture of both condyles or the inverted "Y" fracture and (3) depressed fracture of either or both condyles in which there is an impaction and a comminution of the fragments. These injuries are usually the result of indirect trauma from falls, and are severe in type. They should be treated only by open reduction. It is impossible to restore the normal tibial plateau by any other method and if this is not accomplished a certain degree of disability is certain to follow.

The operation should be performed from seven to ten days after the injury occurs. The joint should always be explored as part of the operation. Any loose pieces of bone must be removed. The semilunar cartilages are examined and if damaged, removed. The wound exposing the joint is not closed until the fracture has been reduced so that the reapproximation of the fragments can be accomplished by direct vision. The depressed condyle is retained in position by some type of transverse fixation such as screws or bolts.

The leg is immobilized in a cast after the operation. This should be bivalved so that early motion and quadriceps exercises can be instituted. Union occurs in ten to twelve weeks. Individuals in whom union is slow or delayed should wear a Thomas caliper splint to prevent undue weight on the fractured side, and it may be advantageous to build up the heel and sole of the shoe on the opposite side.

The ultimate prognosis depends on several factors: (1) extent of intra-articular damage; (2) the degree of perfection of the anatomical restoration of the tibial plateau and (3) the age of the individual involved, and as a rule, the older the patient, the poorer will be the prognosis.

The impacted and comminuted fractures will require a more extensive operation to retain the fragments as well as some type of bone graft to replace the area in which bone structure has been lost. This is accomplished by raising the plateau by an osteotomy on the affected side and inserting a bone graft in the wedge-shaped space that remains.

Any instability on the affected side is usually due to an increased joint space from incomplete reduction and not from rupture of the collateral ligament.

This fracture is worthy of mention as it is not extremely common. The fragments may be in perfect position and an excellent result to be anticipated; yet, in some instances, serial x-rays will reveal a gradual necrosis of the astragalus which clinically terminates in a badly disabled and deformed foot.

The blood supply to this bone is chiefly received from a branch of the dorsalis pedis artery which enters the bone on the lateral side of the astragalar neck. A transverse fracture of the neck proximal to this may lead to necrosis of the whole body of the bone, while a fracture distal to the vessel may result in necrosis of the head and neck. It is therefore evident that a very guarded prognosis should be given when dealing with this fracture and at the first x-ray evidence of bony necrosis operative interference should be instituted. Probably the best results will be obtained by the insertion of a bone graft across the fracture line with the addition of multiple drillings to attempt to restore a certain amount of vascularization.

Case Report: On December 18, 1943, F.F., S-1/c, white male, forty-five years of age, stepped off a fifteen inch curb, after drinking two bottles of beer. He sustained a fracture of the lower fibula with a separation of the tibiofibular diastases, for which an open reduction was performed on December 27, 1943.

Postoperative x-rays revealed the fragments in good position. The cast was removed on February 22, 1944, and much to our surprise, x-rays then showed complete absorption of the astragalar neck. Review of the old films revealed a fine transverse hair line fracture of the astragalus which had been originally overlooked. Had this been recognized and frequent check films taken, early changes would have been noted and the present disability might have been averted by the surgical procedure that we have described. This case demonstrates the importance of carefully reading x-ray films of ankle injuries.

ARTHROPLASTY OF THE ELBOW

We have had the opportunity of performing only one of these operations in this hospital. It is felt that the case is of sufficient interest to justify reporting.

H. B., a twenty year old male, was returning from Memphis to the base in a bus on the night of August 30, 1943. According to his statement, he was asleep with his elbow protruding through the open window adjacent to his seat. A car passing in the opposite direction sideswiped his elbow producing an extensive compound fracture. He was immediately transported to the hospital where debridement and open reduction were performed. It was found that he had sustained a comminuted fracture of the olecranon. There was a fracture of the external condyle of the humerus, and an avulsion of the articular surface of the humerus. The lateral half was absent. The medial half was replaced and attached with a counter sunk vitallium screw.

The wound healed by primary union. The fractures all healed but there was practically no motion at the elbow joint. Routine physiotherapy, massage and active and passive motion failed to produce any improvement.

An arthroplasty was performed on January 13, 1944. The operative procedure was as follows:

A longitudinal incision was made over the lower posterior aspect of the humerus and the upper ulna. The flaps were dissected laterally. A tongue-shaped section of the triceps, 3 inches long, was dissected loose with the base attached to the olecranon process. The ulnar nerve was freed from its bed and displaced anteriorly. The joint was chiseled open. The forearm was dislocated anteriorly. The vitallium screw was removed, and the lower humerus was freed of all tissues; a strip of fascia lata 7 inches long and 3 inches wide was removed from the left thigh. This was inserted into the joint as a double flap and attached to the anterior surface of the humerus above the coronoid fossa by means of mattress sutures of rustless steel wire inserted through a series of drill holes in the shaft of the humerus. The ends were twisted together above the olecranon fossa posteriorly. The proximal flap covered the anterior portion of the distal end of the humerus, the articular surfaces and the olecranon fossa posteriorly. The distal flap covered the coronoid process, the articular surface of the ulna, the head of the radius and the olecranon process. All edges were snugly sutured with interrupted cotton. The ulna was replaced. The tongue of the triceps was sutured back into position and the wound closed.

Healing was by primary union. The arm was immobilized for three weeks. Physiotherapy, massage, and motion were instituted. Return of motion has been rapid and progressive. There is no pain;

at the present time active flexion can be executed to 45 degrees and extention to 165 degrees. Pronation is normal, supination is limited about 20 per cent. Improvement can be expected for at least one year from time of operation.

This case demonstrates what surgery has to offer the patient with an ankylosed elbow. While the results may not always be uniformly good, the average individual will be very grateful for even a limited amount of motion and will feel amply repaid for any suffering or inconvenience that he may have undergone during his period of convalescence.

SURGICAL CORRECTION OF OLD, UNREDUCED, IMPACTED COLLES' FRACTURES

This is a deformity that is frequently observed in older individuals. It is not only disfiguring but also disabling. The deformity could be prevented or at least greatly diminished when the fracture is fresh if the impaction were broken up and the arm placed in a sugar tong cast with the hand in ulnar deviation and palmar flexion, or some other efficient method were used. Many of the unreduced healed cases are so disfigured and disabled that these patients demand that something be done to correct them.

To accomplish this end we suggest the following procedure: A dorsolateral incision is made over the distal end of the ulna which is exposed and severed by the step-cut method. We do this by cutting half-way through the lateral side with a motor saw. Two or two and one-half inches higher, the medial half is severed with a Gigli saw. The two half cuts are connected by cutting the bone in the longitudinal plane with the motor saw. A second incision is made over the distal end of the dorsal surface of the radius, which is exposed close to the joint as this is cancellous bone and easily cut. It is severed by doing a rotary osteotomy. The normal angle between the articular surface of the radius and its shaft is reestablished. In doing this, it will be found that the ulnar fragments are now overlapping as much as 2 inches. Any tendency for displacement of the radial fragments may be overcome by a single obliquely placed screw. The overlapping ends of the ulna are cut off, the remain-

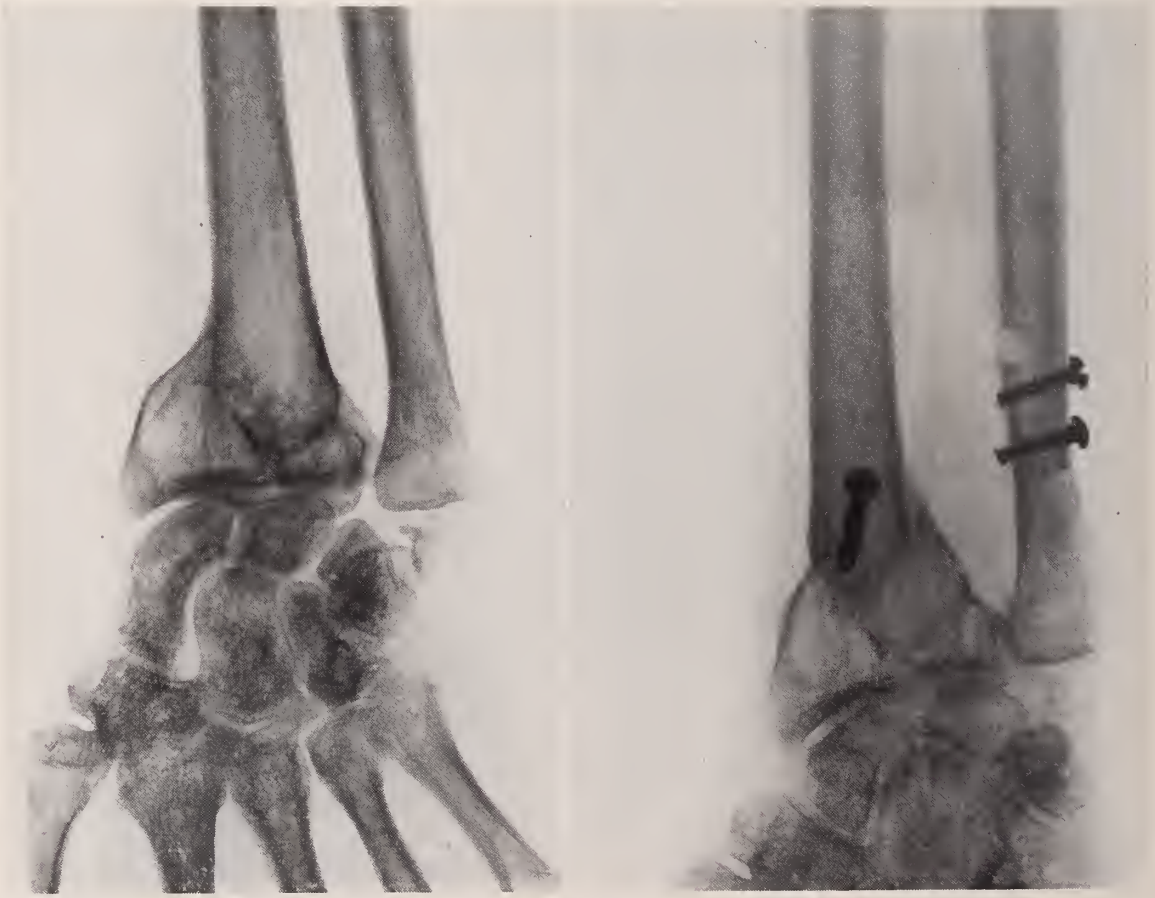

FIGURE III — X-ray views before and after operative correction of an impacted colles fracture.

ing ends are approximated and retained in position with two vitallium screws. This procedure not only corrects the disfiguring deformity but permits the reestablishment of normal function.

This is not an uncommon condition in growing children and will usually respond to immobilization of the leg in a plaster cast for a period of six or eight weeks.

Although this condition rarely occurs in civilians after the age of eighteen, we have found it to be a very common condition in service men. All of our cases gave a history of recurring attacks originating from knee bruises in the early and middle-teen age. On admission to the hospital these patients walk with a pronounced limp, the pain is constant but aggravated with activity, and they are unable to continue with their duties. The tibial tuberosity is enlarged and tender to touch. X-ray reveals the typical separation and fragmentation of the tibial tubercle.

Immobilization with a plaster cast is useless so that some type of operation must be performed. Either multiple drilling or the insertion of a bone peg followed by a leg cast to be worn for eight weeks will result in fusion of the tubercle with the tibia. An additional three or four weeks will be necessary for the patient to regain normal function in the leg.

We have found that by simply removing the loose fragments of the tubercle and scarifying the infrapatellar bursa that the same results are obtained and the patient will return to duty many weeks ahead of the individual who has had one of the other procedures performed.

MYOSITIS OSSIFICANS

This lesion occurs most frequently in young adult males, who are actively engaged in sports or physical activities. The actual pathology is due to a hemorrhage from trauma into a muscle with secondary calcification. One of the common sites of this lesion is in the muscles of the thigh, particularly the quadriceps femoris.

The usual history is that of a blow to the soft tissues followed by swelling and pain. The pain and limitation of motion persist. The swelling gradually subsides. Eventually x-rays are taken or the actual bony protuberance is palpable either of which reveals the true pathology.

The early treatment should be confined to the use of physiotherapy. A moderate number of these cases will regain normal function with disappearance of the pain. This failing, surgical excision is indicated. Surgical intervention at an early date is contraindicated because of the frequency of recurrence before the calcification has become quiescent. A minimum amount of muscle tissue should be sacrificed with the removal of the bony growth, or the future function of the extremity may be impaired.

INTERNAL DERANGEMENT OF THE KNEE JOINT

This is a subject of considerable importance to the surgeon treating patients on an orthopedic service in a military hospital. It is surprising to see how many otherwise healthy young men are disabled for military service because of knee joint pathology. It has been our experience that a large percentage of these individuals acquired their original injuries while playing football under the age of twenty. We have also found that while these men get along fairly well in civilian life, they cannot tolerate the strenuous activities of military service. This means that unless these individuals can be salvaged by surgery, a large number of healthy men are lost from our fighting personnel.

Unfortunately this is easier said than done. The knee joint is a complicated structure, and too often there is more than one lesion present. Many patients with long-standing damage to a semilunar cartilage will also have erosions of articular joint surfaces and extensive inflammatory changes in the synovia. Removal of the offending cartilage will not restore the knee joint to normal. Reconstruction of collateral and cruciate ligaments is not looked on with too much favor by military surgeons because of the percentage of questionable results in individuals who must indulge in strenuous activities.

We would like to emphasize a few points in treating these cases: (1) All knees should be x-rayed prior to operation. This is particularly necessary to rule out the possibility of joint mice. (2) Knee operations should be performed in a bloodless field. (3) Always remove all of the semilunar cartilage. A small lateral fringe can cause a recurrence of the symptoms and may necessitate a second operation. (4) Quadriceps exercises should be started before operation and must be continued until the patient returns to duty. These are performed for ten minutes during each hour of the day. Ascending and descending stair steps and pedaling a bicycle should be performed three times a day. These exercises go a long way in restoring the patient's confidence in his knee as well as in eliminating the

looseness of the joint that is so frequently complained of. We are of the opinion, after observing a fairly large number of our own cases as well as those treated in other hospitals, that there are probably not over 65 per cent of individuals with knee disabilities restored to a full duty status.

PELLEGRINI-STIEDA DISEASE

This subject is worthy of a short discussion because of the bizarre and prolonged symptoms exhibited and the fact that the end results are so frequently unsatisfactory. It is characterized by the formation of a calcium or bony deposit in the femoral attachment of the tibial collateral ligament. The etiological factor is either the result of a direct blow to the knee or the result of a strain or sprain in which there is some injury to the tibial collateral ligament.

It is not definitely known what the actual pathological process is, but it is thought that it is probably due to one of three causes: (1) calcification of a hematoma in the actual ligamentous structure, (2) periosteal proliferation as the result of the ligamentous tear, or (3) metaplastic changes in adjacent connective tissue. It is probable that the process is similar to that of a myositis ossificans.

The symptoms are fairly consistent although they may be easily confused with those of other knee joint lesions. There is usually an early effusion of the joint, and localized tenderness over the medial femoral condyle. At a later date the actual bony protuberance can be felt. The actual diagnosis is made by x-ray which reveals the presence of a crescentic, bony shadow in the superior portion of the tibial collateral ligament. It is parallel to the condyle of the femur but not actually attached to it.

The current methods of treatment are not highly satisfactory.

Immobilization, baking, diathermy, massage and x-ray therapy are the commonly used conservative measures. These failing, surgical excision may be resorted to in the later stages. This may even be followed by recurrences.

The prognosis should be very guarded in these cases, for experience has proven that convalescence is very slow and both the patient and physician may become discouraged. It may be necessary in dealing with patients who are in the armed forces to survey them out of the service. The following two cases are typical of the described lesion:

One was Seaman "F.", aged twenty, who came to the hospital several weeks after he had injured his knee in a football game. He was treated by conservative methods for a period of eight weeks. On discharge he was free of pain, all swelling had subsided, flexion of the knee was about normal, but x-ray revealed that the bony growth was still present.

The other was a WAVE officer, Ensign "S", aged twenty-eight, who had twisted her knee and developed the typical symptoms. She was treated conservatively for several months with only about 50 per cent return of function. Localized tenderness and pain persisted, and at this time she was transferred to a naval hospital close to her home. I was informed recently that she was still under treatment although it has been almost one year since the accident occurred.

RECURRENT DISLOCATION OF THE SHOULDER

This is a disability that is frequently observed in men of the armed forces. It is our experience that about 50 per cent of them have had one or more dislocations prior to entering the service. As a rule the disability is of sufficient proportion to require discharge from the service unless some operative procedure is performed to prevent recurrence of the dislocation.

There are several operations designed to obviate this, notably: (1) some type of capsule repair, (2) the tenosuspension procedure of Henderson and (3) the Nicola operation. The last mentioned method is our procedure of choice. It is relatively easy to perform, is mechanically sound and has been almost universally successful as evidenced by the fact that the patient has normal range of motion, is free of pain and there is no further evidence of dislocation.

There are a few steps in the procedure that should be emphasized: (1) care should be exercised in making the incision to avoid severing the anterior branches of the axillary nerve at the lower angle of the wound, (2) the articular exit of the bony tunnel should be in the center of the head of the humerus and (3) the proximal end of the biceps tendon can be easily threaded through the tunnel if it is attached to a small soft rubber catheter that has been inserted into the tunnel and grasped with a hemostat and brought up into the operative wound. Postoperatively, the arm is kept in a Velpeau dressing for one week. Immobilization for the next three weeks is obtained by placing the arm in a sling with a strap around the body and over the upper arm. Active and passive mo-

tion with physiotherapy and massage are started at the end of four weeks from the date of operation. It has been our experience that the patient will be able to return to a full duty status four to eight weeks later.

CONCLUSION

Time does not permit the discussion of the use of sulfonamides and penicillin in the treatment of infections; the differential diagnosis and treatment of herniated intervertebral discs, the correction of fractures healed in malposition, the various types of bone graft surgery, tendon and nerve suture, surgical procedures in the war casualties, and many other interesting subjects that occur on this type of a service.

While most of the topics discussed are commonplace in both civilian and military practice, it has not been our intention to give the impression that the methods that we have used in treating these injuries are the best. We desire only to stress what we believe to be important points in the treatment of these cases which will fulfill the mission of the Medical Corps of the Navy: "To Keep as Many Men at as Many Guns as Many Days as Possible."

The Treatment of War Fractures of the Femur—Professor Serge S. Yudin, M.D., Colonel Red Army M.C., Hon.. F.A.C.S.,. Hon.. F.R.C.S., (Eng.) Moscow, U.S.S.R.

Surg., Gynec. & Obst., Vol. 78, No. 1, Jan. 1944, p. 1.

Fractures of the Metacarpals Exclusive of the Thumb—Richey L. Waugh, M.D., Chief of Surgical Service, U.S. Marine Hospital and G. P. Ferrazzano, M.D., Assistance Surgeon, U.S. Marine Hospital, Boston.

Am. J. Surg., New Series, Vol. LIX, No. 2. Feb. 1943, p. 186.

Stabilization of the Articulation of the Greater Multangular and the First Metacarpal—Capt. Donald B. Slocum, Medical Corps, Army of the United States.

J. Bone & Joint Surg., July 1943, Vol. XXV, No. 3; Old Series, Vol. XLI, No. 3, p. 626.

VERRUCA VULGARIS

Successful treatment of verruca at times becomes a complicated problem, particularly if there are multiple lesions. The single seed wart over hand or finger is removed most easily perhaps by electrodesiccation. After infiltrating the base of the lesion with 1 to 2 per cent procaine, the lesion is charred not too deeply with medium spark. The body of the lesion then may be removed with skin curette or small curved surgical scissors. Following this the base of the lesion should be desiccated lightly. Application of 1 per cent gentian violet in 70 per cent alcohol followed by 3 per cent ammoniated mercury ointment and protective dressing usually will prevent secondary infection. Healing usually require 10-14 days. The lesion must be kept out of water. If the site is over a joint, splinting will facilitate healing.—J. L. Calloway, M. D., in Southern Medicine and Surgery.

ARTIFICIAL PENIS

By B. S. BRAKE, M. D.
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ARTIFICIAL legs and arms, glass eyes, and false teeth have been in use for many years. Testicles made of silver and other materials have been implanted into the scrotum for whatever psychological or cosmetic benefits they might afford to the supersensitive male who has lost a gonad. We have seen no reference to date, however, to a prosthetic substitute for a penis. Having devised such an appliance for a man who lost his natural organ in an operation, I feel that it may be of interest to report it.

CASE REPORT

L. K., a white male, 37 years old, married, and the father of one child, was referred to me by Dr. Paul R. Gerhardt of the State Department of Public Assistance, April 27, 1943, for plastic surgery necessitated by loss of his penis. His chief complaints at the time were difficulty in urination, a small urinary stream and inability to direct this stream. He said that whether he stood or sat he urinated all over himself. He wore a dress at home, and when he desired to urinate, he pulled the skirt up under his arms, put newspapers on either side of his mid-section and then tried to catch the urine in a pot.

It is not the purpose of this report to discuss the pathology and events which led to the operation, but it will suffice to state that this man had his entire penis and left testicle removed by a surgeon in another town on March 4, 1943.

When he entered St. Mary's Hospital under my care he had recovered from his operation, but had a filiform-size external urethral orifice located about one-half inch below the level of the scrotal skin at the site of the amputation of the penis. This stricture was due to contracture of the operative scar.

The physical examination was essentially negative with the exception that the penis and the left testicle were absent and that he had the urethral stricture mentioned. His general condition was good. The urine was negative for white blood cells, albumen and sugar. The red blood count was 4, 460,000 and the hemoglobin was 76 per cent. The blood Kahn test was negative.

It was thought advisable to do a permanent perineal urethrostomy, but the patient objected strong-

ly to this operation, saying that he did not want the embarrassment of having to squat to urinate.

A urethrogram was made and this showed he had a good wide urethra back of the strictured orifice. So it was, that on May 5, 1943 under pentothalsodium anesthesia the narrow band of scar tissue was excised from the urethral orifice and the urethral mucosa was sutured to the scrotal skin with No. 00 chromic gut. A balloon retention catheter was installed and he was returned to the ward. The incision healed promptly and he was discharged May 15, 1943. He returned two weeks later and a No. 28 French sound passed easily. Since that time the patient has passed a sound through the urethral orifice at intervals and has had no further trouble from obstruction.

The patient was readmitted to the hospital on September 20, 1943 for excision of a small lump at the left external inguinal ring. At operation this proved to be a small hydrocele of the remaining stump of the left spermatic cord.

His inability to direct his urinary stream so as to prevent wetting his clothing and body remained and was very annoying. To overcome this a plastic operation for constructing from the abundant scrotal skin a tube through which he might void without wetting himself was seriously considered, but the problem of constructing such a live spout lined with skin and covered with it on the outside seemed a rather arduous task of doubtful outcome. It occurred to me that he might be able to void through the barrel of a two ounce Chetwood syringe the tip of which had been broken off. The patient, by pressing the bell-shaped bulb-receiving end of the syringe over the urethral orifice, voided very satisfactorily through it without wetting himself or his clothing. He and I were elated, and he used this syringe barrel for several months. But the

glass was breakable and a more durable substitute was desirable. The aid of a dental prosthetist, Mr. Ernest Castella, was sought, and he constructed out of a plastic material, known to dentists as Acrillic, and used by them for artificial dentures, a hollow tube, bell-shaped at one end and fashioned to resemble very closely in shape and color an erect adult penis of rather generous proportions (see illustrations). With the bell-shaped end of this devise pressed over the urethral orifice, the patient voids very satisfactorily in a standing position without letting his pants down, and without wetting his body or clothing.

He has used the device about nine months and he carries it in his pocket. He is sure that it greatly aids him in the act of urinating and that he definitely prefers it to a perineal urethrostomy and squatting to void.

And, believe it or not, this man told me, and convinced me of the verity of his remarkable statement, that he had on more than one occasion consummated the act of sexual intercourse with this artificial penis, ejaculating through it with satisfaction to himself and partner. This sounds fantastic, but such an ejaculation seems little less strange than the well known nocturnal emission, or wet dream, which takes place during sleep,—a very common occurrence.

Finally, this man said that he desired to father another child and wondered if he could effect pregnancy through this artificial penis. He was assured that it could be done.

"And who would say him nay,
For Love will always find a way."

PSYCHOSOMATIC MEDICINE

Superficial psychotherapy — or perhaps one should say a knowledge of human nature—can solve many problems of the aged. If given the proper psychotherapy, old persons with contracted kidneys, arteriosclerosis, cardiac hypertrophy, arterial hypertension, diabetes mellitus, diverticula, and other pathologic handicaps may outlive those who are apparently in good health. The satisfaction derived by the physician from the results of such superficial psychoterapy is far greater than that derived from watchinga postmortem examination.

Physhosomatic medicine, therefore, is the keynote to successful geriatric practice. Those of us who do not specialize in psychosomatic medicine must be content to use more elementary procedures. These elementry procedures take care of perhaps 70 per cent of the patients who come under our observation. The other 30 per cent must be under psychiatric care.—Malford W. Thewlis, M. D., in North Carolina Medical Journal.

SHOULDER PRESENTATION WITH PROLAPSE OF THE HAND

By JEROME C. ARNETT, M. D.
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TORPIN (1), in reviewing 20,000 deliveries reports an incidence of shoulder presentation of about 1 per 1,000 (0.12 per cent), although this varies in different series. Fifty per cent of 147 cases reviewed by Eastman (2) were gravida IV or over and he lists the etiological factors as follows:

Contracted pelvis	40.8%
Multiparity	35.4
Large fetus	8.6
Previous uterine suspension	6.4
Placenta praevia	5.4

Rhentic and Benoit (3) reported two and Marel (4) four consecutive gestations with transverse presentations in *uterid condiformi.* Torpin (1) states that the incidence of advancing parity is the most significant factor. This is emphasized by Novey and Schneider (5).

Maternal mortality increases with length of labor, ranging from 2.5 to 3.4 per cent and as high as 20 per cent in "neglected" cases of over twenty-four hours. The fetal mortality is around 33 per cent with a range of from 27.6 to 40.0 per cent.

Conduct of these cases depends upon the circumstances; early recognition with hospitalization is desirable. If at all possible, external or internal version should be done. If the fetus is viable, cesarean section should be done. If the fetus is dead, decapitation with Braun's blunt hook or its snare modification may be a life-saving measure for the mother. The employment of these instruments is not without danger, since injury to maternal tissues from their use may be fatal, especially in untrained hands. Antenatal hemorrhage is the main contributing cause of maternal deaths where there is prolapse of the hand.

(CASE REPORT)

The patient was a healthy 37 year old white para III, gravida IV, whose youngest child was fourteen months of age. She was seen by me January 14th and February 15th. The expected date of confinement was April 6th, 1944. Her previous labors had lasted about four hours, were easy and all vertex presentations, delivered in the home. On the initial visit her blood pressure was 138 systolic and 70 diastolic. She had gained 19 pounds. A soft systolic murmur was heard, most distinctly at

the apex. The height of the fundus was 27 cm. and she had a gynecoid pelvis. Urinalysis and serologic test for syphilis were negative. Presentation was vertex, the head floating high, fetal heart rate 140, regular, heard in the left lower quadrant.

I was called to see her ten days before the expected date of confinement. When I arrived (9:30 p. m.) she stated that she had had irregular pains for four and one-half hours. I noted that strong pains were occurring every three minutes, and were of forty-five seconds' duration. She was in good physical condition and said something was wrong because she was "not getting anywhere". On examination the fetal head was free and high in the left lower quadrant, the fundus pointing upward and to the right, the back lying against the anterior abdominal wall. The fetal heart rate was 140, heard best just below the unbilicus in the midline. Rectal examination revealed a hand and firmly impacted shoulder presenting in bulging membranes through a nearly dilated (8 cm.) cervix. There was no descent during pains. I observed the course of labor for some time while preparing for a manipulative delivery, during which time contractions diminished. The usual analgesics were omitted because full cooperation of the patient was deemed essential. At 12:30 a. m. a vaginal examination was made, with sterile precautions. The membranes were in midpelvis, and were quite resistant. In them could be palpated the right hand and forearm with volar surface to the left—they moved normally and would tent the membranes during contractions. The right shoulder was firmly impacted in the upper pelvis and the acromion could be palpated riding just under the symphysis pubis and to the right. The elbow could not be palpated and was thought to be folded upon the upper ribs along the anterior axillary line. There seemed to be a copious amount of amniotic fluid, so that the fetus could be moved by abdominal pressure, but external version was unsuccessful.

A little later, I examined her again and then dilated the vagina. At the end of a contraction the membranes were ruptured, the shoulder disengaged and the hand replaced over the chest and over the promontory of the sacrum. I then placed my left hand over the cephalic prominence and exerted steadily lateral pressure on the left lower quadrant of the abdomen; this was maintained with the help of a woman assistant until the head was forced over the brim of the pelvis, so that the presentation was nearly right occiput transverse, and held there for one-half hour until *vis a tergo* ensued. During this time the hand prolopsed three times and would not remain in position until placed around the back of the neck and under the symphysis pubis where it remained until delivery.

Since the uterine contractions were weak, I gave her one minim of Pitocin intramuscularly, and repeated this fifteen minutes later. The cervix contracted to about 4 cm. and became quite resistant, but the head immediately engaged in the right occiput anterior position. She resumed active labor and at 2:30 a. m. delivered a normal 7½ pound female infant spontaneously just ten and one-half hours from onset of labor. No resuscitation was necessary and the baby cried promptly. There was cyanosis of the right hand and arm without appreciable swelling. There was very little blood loss. The placenta was delivered intact after seven minutes by the Crede method. The cyanosis of the baby's arm had disappeared the following day and both mother and infant had an uneventful postpartum course. It is interesting that the right arm was folded around the back of the neck and was delivered that way.

SUMMARY

The literature of transverse presentation is discussed briefly. A case of shoulder presentation with prolapse of the hand is described in a 37 year old white multipara. Since it was necessary to deliver this patient in the home, presentation was reduced manually and the patient allowed to deliver spontaneously by vertex. The infant was normal and there were no maternal complications.

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The number of cases of blindness in our Army in this war is still small, only 73 having been recorded by March 1, 1944.

CESAREAN SECTION, AN ANALYSIS OF 1088 CONSECUTIVE CASES*

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THE following analysis covers the 1,088 cesarean sections performed at the University Hospital from 1920 through 1943. The material has been divided into three eight-year periods for purposes of comparison. Coincidentally, it was towards the end of the second period that the obstetrical department moved to new quarters which were provided with an operating room and equipment used only for sections. Of these 1,088 patients, 613 were white and 475 colored; 347 private and 741 ward. These operations were carried out by a large group and, in the ward cases, the majority of the operations were done by the resident in obstetrics. Since there has been a total of 49,778 deliveries during this period, it represents an incidence of 2.1 per cent.

TABLE 1

TYPE OF OPERATION

	1920-27	1928-35	1936-43	Total
Classical	196	297	133	626
Low	15	87	332	434
Poro	4	10	6	20
Extra peritoneal	0	0	4	4
Post Mortem	0	3	1	4
Total	215	397	376	1088

In table 1 the frequency with which the various types of operation were employed is stated. In recent years the lower segment operation with a longitudinal incision has been established as routine except in those cases where a rapid procedure is indicated, as in premature separation or placenta previa with profound shock; or in early terminations of pregnancy where the lower segment is inadequate, as is not infrequently seen in preeclampsia. Extraperitoneal operations have not been adopted to any extent, there having been just four performed. The infrequent use of this technic has been due to a lack of familiarity with the procedure and a belief that the indications for its use do not occur very often. However the tendency in the past year has been more liberal and it is probable that the frequency with which the extraperitoneal operation is selected will increase. There were four postmortem sections in the series from which two living babies were delivered. Two of the deaths followed eclampsia and there was one living baby. One death followed arsephenamine poisoning and the baby was stillborn. The fourth death will be discussed later.

TABLE 2

INDICATIONS

	1920-27	1929-35	1936-43	Total
Cephalopelvic disproportion	105	139	192	436
Placenta previa	23	107	87	217
Preeclampsia	13	41	50	104
Premature separation of placenta	5	42	38	85
Eclampsia	30	8	0	38
Post eclampsia	0	0	6	6
Previous cesarian section	1	2	20	23
Heart disease	4	5	10	19
Hypertension and Sterilization	0	10	8	18
Prolonged labor	13	2	0	15
Mental deficiency & sterilization	0	10	2	12
Transverse presentation	2	5	4	11
Breech presentation	4	1	6	11
High amputation of cervix	1	2	6	9
Elderly primipara	1	1	6	8
Miscellaneous (5 or less)	13	19	40	72
	215	394*	475*	1084*

*Does not include postmortem sections.

Under the indication cephalopelvic disproportion has been grouped all cases of contracted pelvis plus those cases in which the pelvis was apparently normal or borderline with a large baby. A "trial labor" rather than a "test of labor" is the clinic rule and a number of these cases have come to section after such a "trial" has failed to produce the desired descent of the presenting part.

Patients with preeclampsia have been delivered by section with about the same frequency for the last sixteen years. These cases are usually primigravidas, prior to term, who develop severe toxemias which do not respond to hospital treatment and whose cervices are not "ripe". Eclampsia is not now treated by section. Only those cases which respond to conservative treatment but because of the stage of their pregnancy, the existence of a disproportion, or some other factor, are not candidates for delivery from below, come to section. We prefer to classify these as cases of "posteclampsia".

Thirty cases were sectioned primarily so that they might be sterilized. We mention this only to condemn it and the indication has been abandoned. These cases are now and, should be we feel, delivered from below with sterilization carried out within the first twenty-four hours postpartum. Eleven patients were delivered by section because of breech presentation. As a rule there were other favoring circumstances such as a large baby or an

*From the department of obstetrics, University of Maryland School of Medicine.

elderly primigravida. There have been 884 breech presentations during this period so that one out of eighty-one was delivered abdominally because of the presentation.

TABLE 3
PREVIOUS PREGNANCIES

	1920-27	1928-35	1936-43	Total
Primigravida	137	183	243	563
1-6	73	177	216	466
7 and Over	5	37	17	59
Total	215	397	476	1088

TABLE 4
PREVIOUS SECTIONS

	1920-27	1928-35	1936-43	Total
One	20	36	73	129
Two	6	11	16	33
Three	0	2	2	4
Total	26	49	91	166

Although 166 patients had had one or more previous abdominal deliveries, only 23 were again sectioned for this indication alone. These were done because a previous postpartum infection or clinical judgment indicated a weak uterine scar. This latter finding was substantiated at operation in only a very small number of cases. The ability to palpate a weak scar in the uterus through the abdominal wall is quite doubtful.

TABLE 5
STERILIZATIONS

1920-27	1928-35	1936-43	Total
20	87	127	234

Two hundred thirty-four or 22 per cent of the series, were sterilized at the time of operation by the Pomeroy or Madlener technic. It is our policy to offer sterilization to all patients after the third section, or to any patient who has had four or more term pregnancies one of which was a section, for it is our opinion that such a uterine scar is not sufficiently strong to make further pregnancies safe.

TABLE 6

	1920-27	1928-35	1936-43	Total
Ether	213	363	417	994
Local	2	14	44	60
Spinal	0	9	5	14
Caudal	0	0	7	7
Paraldehyde	0	4	1	5
Avertin	0	3	0	3
Pentothal	0	0	1	1
	215	394	475	1084

Ether anesthesia, preceded by gas-oxygen induction, was used in the majority of cases. There were three deaths in the series attributed to the anesthetic, and all of these patients received ether. Local infiltration was used 60 times, there being a marked increase in its use recently. Abdominal distention and pulmonary complications are seen less often following this method. Fourteen patients received spinal anesthesia without untoward event. However, one patient with a strangulated ventral hernia at term was given a spinal anesthetic using metycaine. She died within one minute of administration, apparently of respiratory and cardiac failure. A living term baby was delivered by postmortem section. During the last period covered, single injection caudal anesthesia was employed on seven patients. Two of these required supplemental inhalation anesthesia. Both spinal and caudal anesthesia have now been abandoned because of the experience cited above plus previously reported disasterous results. Paraldehyde by rectum was used

TABLE 7
MORBIDITY

	Total	Under 100 Cases	%	100-101 Cases	%	101-102 Cases	%	102-103 Cases	%	103-104 Cases	%	104-105 Cases	%	Oxer 105 Cases	%
Not in Labor															
Membranes Ruptured	10	5	50.0	2	20.0	1	10.0	1	10,1	0	0.0	1	10.0	0	0.0
Membranes intact	468	185	39.5	143	30.6	93	19.9	24	5.1	15	3.2	2	0.4	6	1.3
Total	478	190	39.8	145	30.3	94	19.7	25	5.2	15	3.2	3	0.6	6	1.2
In Labor															
Membranes Ruptured	93	17	18.3	17	18.3	21	22.5	19	20.4	12	12.9	5	5.4	2	2.2
Membranes intact	159	35	22.0	40	25.2	33	20.8	32	20.1	11	6.9	8	5.0	0	0.0
Total	252	52	20.6	57	22.6	54	21.4	51	20.3	23	9.1	13	5.2	2	0.8
Vaginal Examinations															
Not in Labor															
Membranes Ruptured	4	2	50.0	1	25.0	0	0.0	1	25.0	0	0.0	0	0.0	0	0.0
Membranes intact	95	39	41.1	22	23.2	12	12.6	12	12.6	7	7.4	3	3.1	0	0.0
In Labor															
Membranes Ruptured	19	3	15.8	6	31.5	8	42.1	0	0.0	1	5.3	0	0.0	1	5.3
Membranes intact	17	4	23.5	4	23.5	4	23.5	2	11.8	2	11.8	0	0.0	1	5.9
Total	135	48	35.6	33	24.4	27	17.8	15	11.1	10	7.4	3	2.2	2	1.5
Attempted Delivery															
In Labor															
Membranes Ruptured	4	1	25.0	1	25.0	1	25.0	1	25.0	0	0.0	0	0.0	0	0.0
Total	869	292	33.6	236	27.1	173	19.9	92	10.5	48	5.5	19	2.2	10	1.2

in five cases. These patients had preeclampsia or eclampsia and the paraldehyde was being used as the sedative in the toxemia regime. The dose was 12 drams and it was usually supplemented by local infiltration.

An attempt has been made to determine the relationship between certain factors and occurence of infection. In table 7 these relationships are tabulated. The basis for these determinations was the maximum, uncorrected postoperative temperature excluding the day of operation. The material used in this phase of the report included only the 869 sections performed from 1928 to 1943 since the records were more complete in these two groups.

Seven hundred thirty of these patients had neither vaginal examinations nor attempts at delivery. Of these, 478 were not in labor and 143 or 29 per cent had temperature elevations above 101F. Two hundred fifty-two were in labor and of these 143 or 57 per cent had temperatures above 101. Of the 730 patients, 627 had intact membranes and of these, 224 or 36 per cent had temperatures above 101. One hundred thirty-five patients had vaginal examinations and 730 did not. Forty per cent of each group had temperatures above 101. Therefore it would appear that if the patient has ruptured membranes and/or is in labor, her chance of infection is greater than if she were not in labor and/or her membranes were intact. Vaginal examinations, if done with sterile precautions, as almost all of these were, appear increase the chance of infection very little.

Table 8 shows the relationship between the maximum temperature elevation and the type of operation performed.

Although there is a larger percentage of low sections showing a maximum temperature elevation above 101F. than the classical, it should be stated that even prior to the general adoption of the low section, the classical operation was never elected for potentially infected cases.

TABLE 8
MORBIDITY AND TYPE OF OPERATION

	Total	Under 101%		Over 101%	
Classical	430	276	64	154	36
Low	419	244	58	175	42
Porro	16	7	43	9	57
Waters	3	2	67	1	33
Latzko	1	0	0	1	100
Total	869	529	60	340	40

The maternal mortality was 5.07 per cent. As can be seen in table 9, progress has been made in the controllable causes of death. There has been just one death from peritonitis during the last eight years and that was due to an accidental break in technic. There have been no deaths from eclampsia, primarily because fewer such patients came to section and then only after conservative treatment had stabilized the condition and brought about improvement sufficient to make operative delivery relatively safe. Shock and hemorrhage show minimal improvement. This is due largely to the fact that over a period of time, a fairly constant num-

TABLE 9
MATERNAL MORTALITY

Cause of Death	1920-27	1928-35	1936-43	Total
Eclampsia	7	2	0	9
Hemorrhage	0	3	3	6
Shock	1	1	1	3
Cardiac failure	0	1	2	3
Anesthetic ether	1	0	2	3
Pneumonia, lung abscess	0	1	1	2
Pulmonary embolus	0	1	1	2
Pneumonia	1	0	1	2
Ileus	0	0	1	1
Status lymphaticus	0	0	1	1
Uremia	0	0	1	1
Intestinal obstruction	1	0	0	1
Total	23 10.69%	16 4.06%	15 3.15%	55 5.07%

FETAL MORTALITY

	Neonatal Deaths				Stillborn			
	1920-27	1928-35	1936-43	Total	1920-27	1928-35	1936-43	Total
Prematurity	9	31	35	75	0	0	0	0
Intrauterine asphyxia	2	3	0	5	7	23	24	54
Intracranial hemorrhage	3	5	3	11	2	3	1	6
Atelectasis	1	1	5	7	0	0	0	0
Congenital defects	0	1	4	5	0	0	0	0
Diarrhea	0	0	2	2	0	0	0	0
Hydrocephalus	0	0	1	1	0	1	0	1
Congenital syphilis	0	0	1	1	0	1	0	1
Aspiration asphyxia	0	0	1	1	0	0	0	0
Septicemia secondary to intrapartum infection	0	0	0	0	1	0	0	1
Bronchopneumonia	0	0	1	1	0	0	0	0
Intestinal obstruction	0	1	0	1	0	0	0	0
Cause undetermined	0	0	0	0	0	4	0	4
Total	15	42	53	110	10	32	25	67

ber of patients with placenta previa or premature separation will be admitted to the hospital in extremis after a long ambulance ride. In spite of the most energetic use of modern methods for treating blood loss, some of these results will be bad. Three patients died of cardiac failure and these patients were sectioned for heart disease. We now feel that heart disease is not an indication for abdominal delivery, and unless there is some other indication, these patients do better if delivered through the pelvis. One patient died suddenly two hours following an uneventful elective operation without any satisfactory clinical diagnosis. At autopsy the cause of death was ascribed to status thymicolymphaticus.

There were 11 sets of twins making 1,099 infants in the series with a total uncorrected mortality of 177 or 16.14 per cent. This low fetal salvage may be ascribed in a great extent to causes associated with the indication for section. A large group of these babies were premature, there being 851 weighing more and 248 weighing less than 5 pounds and 8 ounces. Prematurity led all the causes for neonatal death, there being 75 or 68 per cent of the total due to this cause. Very often the indication for the section will minimize the baby's chance for life. For example 54 or 80 per cent of the stillbirths were due to intrauterine asphyxia. This failure of the fetal circulation was in the majority of instances, the result of placenta previa or premature separation. Eleven of the neonatal deaths were due to intracranial hemorrhage, most of them following prolonged labor in the presence of disproportion prior to admission to the hospital. Cesarean section per se should not be held responsible for the high fetal mortality. Allowance must be made for the circumstances leading to the operation.

BRUCELLOSIS

For many years medical authors have presented brucellosis as an acute infectious disease of unusual severity and long duration. The classical description included the typical recurrence of the hyperpyrexia which they thought characterized the illness and because of which they termed the condition undulant fever. The infection was thought to be of rare occurrence and as recently as 15 years ago these cases were considered medical curiosities.

The prohecies of many early investigators who considered the disease a major health problem are fully realized today. The increased incidence of brucellosis is more apparent than real and may be attributed to more general recognition—Harry J. Schmitt, M. D., in New Orleans Medical and Surgical Journal.

Tuberculosis Abstracts

Furnished Through the Courtesy of
The West Virginia Tuberculosis Association

Tuberculosis in Elderly People

The importance of tuberculosis in elderly people especially pulmonary tuberculosis, has been generally underestimated. One reason for this is that few of us have any conception of the number of older people among us. There are in the United States nearly four thousand persons over 100 years old; over 87 thousand who are past 90; more than one million who are over 80; more than five million over 70; and 13.5 million over 60. These, with 13 million in their fifties, make a total of over 26.5 million persons over 50, more than 20 per cent of the whole population.

The U. S. Census figures for 1870 showed only about 11 per cent of the population over 50 at that time. A reduction in mortality from infectious disease, increased application of sanitary science, better housing and nutrition are all contributing to the longer life of the present day. How permanent the present large percentage of older people in the population will be, we cannot tell. Continued wars followed by widspread epidemics, may again reduce life expectancy to that of the middle ages.

Now, however, when about one fifth of our population is elderly, it is important that we know how much of it harbors tuberculosis, and how much of a menace to the community this represents. Is tuberculosis in the later decades of life increasing?

Figures from the U. S. Census Bureau show that the mortality rate from tuberculosis in the United States in 1940 were much higher in the later decades of life than among young people.
The highest rate in 1940 at any age period, that of male between 55 and 65, was 110 per 100,000. In 1900 the highest rate for males, 362 per 100,000, was in the age period 35 to 39.

The death rate from tuberculosis is still relatively high in persons over 50, and since this group forms about 20 per cent of the population, there are many elderly tuberculous persons in the country. Using the very conservative factor of five active cases for every death, the active cases, many of which are spreading infection, may be estimated as at least 100,000. Not all of these cases are in sanatoria.

Pathology

There has been a great deal of controversy regarding the seriousness of tuberculosis in old people. Some have considered it relatively benign, while others have thought it rapidly progressive. In one report of a series of 142 cases over 55 years of age admitted to a sanatorium, many of the patients had active tuberculosis with positive sputum for periods of from 10 to 40 years. The number of tubercle bacilli eliminated by sputum-positive cases which remain postive for periods as long as 10, 20, 30 or 40 years, can only

be faintly realized or comprehended, in this respect being comparable only to national expenditures for war and other purposes.

The patients in sanatoria are for the most part those with active or progressive lesions. Probably a large proportion of the fibrotic cases with few symptoms are at home. This circumstance makes it difficult to determine the typical characteristics of pulmonary tuberculosis as it affects elderly people.

Aging tissues are said to be less susceptible to inflammatory processes than growing ones, and tend to develop fibrous change. Obliteration of lymphatic channels and involutional changes take place which may render the body resistant to the spread of tuberculosis. On the other hand there is probably concomitant atrophy, decalcification and dehydration. A few individuals may reach old age without previous infection and develop primary tuberculosis, not always distinguishable clinically from reinfection tuberculosis.

Many elderly persons who have definitely recognizable tuberculosis lesions with postive sputum have become somewhat immune to the toxic effects of their disease, and make up a highly infectious class. In this group are included the so-called "good chronics" with positve sputum who do not consider themselves ill. Some of them care for young children or are otherwise in close contact with susceptible persons.

The course of events in any individual case is dependent not only on exposure to fresh infection or on the reactivation of old quiescent foci, but also on the endowment of the individual with more or less resistant tissues. Although tuberculosis may only become manifest and troublesome in later life, its origin usually is to be sought in an earlier period.

Differential Diagnosis

While tuberculosis is relatively common in later life, its detection is frequently difficult. Diseases likely to cause confusion are frequently met. Included among them are cancer, cardiovascular disease, chronic bronchitis, emphysema, bronchiectasis, asthma and silocosis. If the spitum does not contain tubercle bacilli, the differentiation becomes increasingly difficult. Cough, weakness, loss of weight, hemoptysis and other simptoms found in tuberculosis may be present in other conditions with consequent difficulty in differential diagnosis.

Many cases of tuberculosis in older people are not detected because few of them have had chest X-rays. Most of the surveys have been among children and young people who are much more easily persuaded to cooperate. It has been difficult to secure the consent of older people for examination. They pay less attention than young people to declining health, which they feel is to some extent inevitable. Their tired feeling they consider a normal accompaniment of old age. They do not like to change their environment and are fearful lest there may have to be radical alterations in their way of living. Inertia and dread of loss of security make them hesitate.

Methods of search for unsuspected cases of tuberculosis, however, are changing. The X-ray, our most valuable resource for this purpose, is being used more freely since it is becoming less expensive. An X-ray of the chest will soon be part of the routine examination of all patients seen by physicians in their offices, just as it is now becoming a part of up-to-date clinic practice.

Treatment

The treatment of tuberculosis in old people is in many respects the same as it is for those in early life. Rest of the inflamed area is the keynote and will probably be necessary even if some day some form of chemotherapy is found. Certain difficulties in the rest treatment of elderly patients are apparent. Complete immobilization is not well borne by the aged and mechanical measures to secure lung rest are less applicable for them. Symptomatic treatment and good nursing may bring good results were mechanical adjuncts to bed rest are not advisable. Exceptional cases will doubtless have to remain at home. The physician should, however, not accede to such a plan without a full realization of the risks involved, and the possibility of infecting an entire family and a new generation.

The entire population needs and deserves good medical supervision. Persons with arrested tuberculosis, in order that they may be kept from reactivating their lesions and becoming spreaders of tubercle bacilli need more than the average medical attention. Older persons in this category will require as much consideration and follow-up as younger patients.

Tuberculosis in Elderly People, A. T. Laird, M.D., The Journal-Lancet, June, 1944.

HIGH MORTALITY IN WHOOPING COUGH

Whooping cough now accounts for more deaths than all other common contagious diseases combined. Because there is insufficient antigenic response during the first half year of life, vaccination against pertussis is not undertaken until after six months of age. If Sauer's vaccine is used the dosage now recommended is 1 cc., 2 cc., and 3 cc. at 3- to 4-week intervals, making a total dose of 90,000,000,000 organisms. This vaccine is now obtainable in combination with diphtheria toxoid and also a triple antigen including tetanus toxoid. When these 3 agents are given simultaneously the results of immunization are claimed to be equally as good as when the antigens are administered separately. Morover, reactions are said to be no more frequent or severe with such a combination. — A. L. Hoyne, M. D., in J. Kansas Medical Society.

GASTRIC ULCERATIONS

In patients over 50 years of age with gastric ulcerations that have produced symptoms for less than 1 year, the chances are 5 times as great that that patient has cancer instead of benign ulcer. If, on the other hand in the same age group, the symptoms have existed for over a period of 5 years, then the patient is 5 times as likely to have a benign lesion as a malignant one. In other words, patients of middle life, or beyond, who have an ulceration of the stomach of short duration without previous history, are almost certain to have cancer.—Arthur W. Allen, M. D., in J. Med. Assn. of Georgia.

The President's Page

This is a clear call to duty. Upon the response to this call may rest the fate of what is conceded to be one of the most progressive legislative programs ever sponsored by our organization. First, the program:

Governor Meadows has suggested to the legislature that an interim committee be appointed to study public health needs in West Virginia, which subject very properly includes adequate medical care for all of our people. Speaker John E. Amos has introduced a resolution (H. C. R. 4) in the House of Delegates, which is being reproduced in this issue of the Journal. As this page is written (January 25), the resolution is before the house committee on medicine and sanitation for consideration.

Too much cannot be said in praise of Governor Meadows for his forthrightness, his vision and his courage in proposing an all-out study of public health needs. Our Council and Legislative Committee have unanimously endorsed the resolution, the members feeling that out of a thorough investigation by a committee representing interested groups of our citizens will come a plan or plans that will help us to solve our problems.

The State Medical Association is sponsoring two bills. One (H. B. 50—S. B. 14), proposes that the appointment of the medical heads of state institutions be approved by the Public Health Council. The other (H. B. 51—S. B.15), provides for the approval by the council of the West Virginia State Medical Association of the appointment of the state health commissioner and the medical members of the public health council, and proposes to raise the salary of the commissioner from $5,000 to $8,000 per annum. These bills were introduced in the House by Dr. George P. Evans, chairman of the committee on medicine and sanitation, and in the Senate by Senator Fred Allen, member of a similar committee in that body. A hearing on the two bills will likely be held about February 1.

In addition to sponsoring these two bills, the Council, Legislative Committee, and Fact Finding Committee have endorsed part of the legislative program of the State Health Department, and these bills will by this time have been introduced in the legislature.

If you have not yet talked with your representatives in the legislature, then I ask you, as a loyal member of the State Medical Association and as one interested in the welfare of your state, to do so immediately. Our program is constructive and progressive, and merits the active support of all forward-looking people.

Thomas C. Harris

President.

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SEED CORN OF MEDICINE

Regardless of whether our grandsires wore the blue or the gray, those of us who have given close study to the War of Secession admit that Jefferson Davis, the Civil Pilot of the Lost Cause, was one of the greatest, most clear thinking, and most profound of American statesman.

The story is told of him that when "the thin gray line" was cracking and he was urged to lower the draft age to 15 the old statesman pondered a minute, shook his head, and replied: "No, that would be grinding the seed corn of the Confederacy."

We view with much misgiving the decision of the Federal Government not to grant occupational deferment to a limited number of premedical and medical students. Medicine is physically a hard calling at best, and this decision cannot help but result in a dearth of physically fit young physicians about five years hence. If we read the signs of the times aright, internes and residents will be much in demand then, and the recruits to the profession will not be up to the physical standard necessary to carry on in the best possible manner, and the supply may be numerically inadequate as well. Representative A. L. Miller from the Fourth Nebraska District, a physician and a former health commissioner of Nebraska, has introduced a bill in Congress to remedy this situation by deferring a moderate number of physically fit as medical and premedical students. We trust the Congress approves this bill for otherwise, to use the homely but expressive simile of the canny Confederate statesman, we shall be grinding the seed corn of medicine

AN IMPORTANT COMMITTEE

Governor Meadows' suggestion that a legislative interim committee be appointed to make a survey of the entire public health situation in West Virginia merits the full support of the members of the legislature. The Council and Legislative Committee of the State Medical Association have already very properly and wisely unanimously approved the program.

An overall study of the many angles connected with a successfully conducted long range health program will no doubt result in some changes in our present method of providing medical and hospital care.

Under the provisions of the resolution, the legislative personnel is to be named by Senate President Arnold Vickers and John E. Amos, Speaker of the House of Delegates, and the other members will be named by Governor Meadows. These public officials can most certainly be trusted to name as members men and women best qualified to serve.

We commend the action of the Governor in suggesting in his inaugural address that this committee be appointed, and we also commend Speaker Amos for his promptness in submitting the matter to the legislature. We unhesitatingly urge the adoption of the resolution so that this study and investigation may get under way without delay.

LOOK AND LISTEN

Recently we were asked by a conferere to make some editorial comment upon the solicitation of physicians to join this, that or the other organization, or to contribute to various more or less worth while causes and objectives. The public generally appears to consider the physician an easy mark and we doubt not that the American Medical Directory is often used as a mailing list for the furtherance of all kinds of schemes good, bad, and indifferent. We have heard also that Who's Who in America and even the dignified Catalogue of Phi Beta Kappa have at times been used as "sucker lists."

In general we would offer this advice upon the subject. When a physician is solicited to join some organization or to contribute to a cause with which he is not thoroughly familiar, the request should be submitted to the Executive Secretary of the State Medical Association who will in most instances have accurate data on hand to furnish the necessary information, and in case further search is necessary, the American Medical Association can be consulted. In this connection we presume that the old Latin adage *caveat emptor* might be adapted to read *Caveat donor*, or *caveat coniungor*. At any rate look before you shuck your shekels.

LABORATORY EVALUATION STUDIES

Realizing that the 1944 evaluation studies made of the West Virginia hospital and commercial laboratories had resulted in disappointment to many of our laboratories and physicians, we asked Miss Katherine Cox, Director of the State Hygenic Laboratory, to prepare a statement setting forth the present status of the evaluation studies with such suggestions as the Advisory Committee on Approval of Laboratories had to offer for improvement of the situation. Miss Cox has complied with such a succinct and to-the-point statement that we quote it entirely. Says Miss Cox:

> The West Virginia State Health Department's program of evaluating private laboratories in West Virginia on their performance of sypilis serodiagnostic tests has now been in force for six years. Let us take stock of the advances which have been achieved during this period, and consider the improvements in our laboratories which still remain to be made.
>
> The purpose of the program, which became the duty of the State Health Department as a result of passage of West Virginia's premartial law, is to increase the accuracy and efficiency of tests for syphilis throughout the state, to aid private laboratories in keeping abreast of current progress in this field, and to inform the state's physicians as to the laboratories from which they can obtain dependable results. It is unfortunately true throughout the country that different laboratories examining portions of the same blood specimen by the same diagnostic test often report results which very from strongly positive to straight negative; and these discrepencies frequently place both the physician and the patient in a very unpleasant quandary. Accurate serology is vital to the detection, the adequate medical treatment, and the control of syphilis, a disease responsible for high economic and physical loss to the country; a disease which has been a very considerable factor in contributing to the high percentage of rejections of those physically unfit for duty with the armed forces.
>
> One outstanding cause of serologic discrepancies is variation in the accuracy with which different laboratories perform the same test; another is variation in the sensitivity of the several standard tests for syphilis (i. e., the various flocculation tests and the complement fixation tests). The approval system seeks to minimize technical error by approving only those laboratories which in the annual evaluation studies demonstrate their ability to perform at least one of the preferred modern tests with a reasonable degree of accuracy. The West Virginia Advisory Committee on Approval of Laboratories sets the standards of accuracy which a laboratory must attain before it can be approved by the State Health Department.
>
> The past six years have shown marked improvement in the accuracy of syphilis serological "blood tests" carried out in the hospital and commercial laboratories of West Vriginia, as demonstrated by the results on annual evaluation studies, and by the fact that a high percent of the laboratories tested each year have been approved under standards of accuracy which have been gradually increasing. Of seventy-odd laboratories tested in 1943 and again in 1944, 85 percent were approved. West Virginia requirements are not even yet, however, as strict as those of the American Committee on Evaluation of Serodiagnostic Tests for Syphilis. This of course is the goal, since accuracy and continual improvement in the quality of medical laboratory work is vital to the efficiency of the medical practitioner and to the health of the people of our state and nation.
>
> The West Virginia Advisory Committee consists of five members, two representing the West Virginia State Medical Asociation, one representing the Public Health Council, and two representing the State Health Department. This committee sets the standards of accuracy required of a laboratory before it can be approved by the State Health Department for the prupose of carrying out premarital blood tests for syphilis. Each year our State Health Department conducts evaluation studies for the laboratories of the state similar in character to the annual American Evaluation Studies in which all State Health Department laboratories must perform satisfactorily if they are to receive Federal funds. The general method is prescribed by the American Committee on Evaluation of Serodiagnostic Tests for Syphilis: Essentially 200 "unknown" specimens of blood serum are sent over a period of several months, to each laboratory being evaluated; portions of the same specimens are sent to two "control laboratories" for examination by the various standard tests for syphilis. A laboratory is approved for a given standard test only if its results on the positive specimens show 80 percent agreement with the results of the control laboratories, and if it reported no more than 1 percent "false positive" results on the known negative specimens. To further the program, the State Hygenic Laboratory offers free technical consultation service and free training in modern approved serodiagnostic tests to the personnel of any laboratory in the state.
>
> The West Virginia Advisory Committee on Approval of Laboratories for Syphilis Serology feels that it has an urgent duty, not only to

the laboratories of the State, but to every citizen of West Virginia, in that approval of a laboratory by the State Health Department is a guaranty to any physician or patient that the laboratory work so vital to professional efficency and the personal health of the individual is accurately carried out in that laboratory, according to present knowledge and constantly developing research. Two years ago, the Committee urged that all laboratories desiring approval adopt the routine use of at least two serodiagnositc tests for syphilis, preferably one standard flocculation test (such as the Hinton, Mazzini, Kahn Standard or Kline Diagnositc Test) and one complement fixation test (such as the Kolmer-Wassermann). This recomendation was made because of the following well-established facts:

(1) No single known serological test is adequate for the detection of syphilis in all its stages;

(2) No chemical or physical test is consistently maintained at the peak of its accuracy unless it is constantly checked by other tests;

(3) The accuracy of most "standard" flocculation tests is greatly affected by slight changes in technique, reagents and physical conditions, often unnoticed or considered unimportant by the average laboratory worker, who all too often lacks thorough technical knowledge of the basic principles of chemistry, physics and bacteriology;

(4) In the previous year's evaluation studies, no laboratory which was evaluated on two or more standard tests failed to meet requirements for approval on at least one of its tests.

The advice of the Committee was heeded by many laboratories, but nevertheless in 1944 forty-three (63 percent) of the laboratories tested still clung to the use of the Kahn Standard or the Kline Diagnostic tests only. The results of the 1944 evaluation studies showed that this was a grave lack of foresight. The results on identical specimens tested by fifty-eight laboratories using the Kahn Standard Test showed startling inter-laboratory variation, one laboratory having detected as few as 5 percent and another as many as 70 percent of the positive specimens, and the remaining fifty-six laboratories reporting results ranging from one extreme to the other. One laboratory reported 12 percent false positive results! Only 7 percent of this group of laboratories could be fully approved. The Committee, however, cognizant of the manpower shortage and of the tension under which all work is now done, recommended that a lenient policy be followed in 1944 by issuing temporary approvals to 72 percent of this group, extension of the temporary approval for a laboratory depending upon the adoption of the Committee's recommendations by that laboratory within a 6-months' grace period. Within this period one of the more sensitive standard tests (such as the Hinton, Mazzini or Kolmer) must be adopted. The Hinton and Mazzini tests are flocculation tests which give results closely comparable to those of a standard complement fixation tests such as the Kolmer-Wassermann. This requirement can readily be met without any additional expense by any laboratory properly equipped for the Kahn or Kline tests, since equipment suitable for the Kahn Standard test is also suitable for the Hinton test, and equipment required for the Kline Test is the same as that required for the Mazzini Test.

In the 1944 evaluation studies 37 percent (twenty-five) of the laboratories tested used at least two "standard" tests, one of which was the Kolmer, the Hinton, or the Mazzini. Of these, 72 percent were eligible for full Certificates of Approval, 24 percent were eligible for Temporary Certificates, and only one laboratory failed completely.

The Committee strongly recommends that the laboratories of West Virginia provide for their clientele basic syphilis serologic service as follows:

(1) At least two standard serodiagnostic tests should be used routinely by all laboratories in West Virginia which conduct tests for syphilis, one being a standard flocculation test and one a standard complement-fixation test. If a complement fixation test cannot be adopted, at least one of the two tests used should be a flocculation test of high sensitivity, specificity and reproduceability, such as the Hinton or Mazzini.

(2) On spinal fluids tested for evidence of syphilis, a recognizedly standard **quantitative complement fixation test,** such as the Kolmer or Eagle quantitative complement fixation tests, should be used.

The cost of inadequate or inaccurate laboratory work, in terms of human life and human happiness, far exceeds the financial cost of carrying on adequate modern techniques the accuracy of which is properly and constantly controlled. This is certainly true in war-time, when there is a dearth of physicians in civilian practice. Few doctors now-a-days have either time or patience to "unscramble" an unnecessary snarl of conflicting laboratory reports. The importance of meticulous accuracy and constantly improving quality in medical laboratory service cannot be over-emphasized; it is a vital part of the development of medical science. On Sunday, January 14, 1945, Dr. Arthur H. Compton, Nobel Prize winner and Dean of the School of Physical Sciences in the University of Chicago, gave a radio address on the subject "Science Looks Forward" which we attempt to quote, and we think essentially correctly in part as follows: "Our country, at war, is calling for full mobilization of the scientific strength of the nation . . . This requires not only superiority in quantity but superiority in quality in all our scientific endeavors. In the present war we are proud of what our men of science are doing . . . in medicine, in chemistry, in physics, and in the specialized skills . . . But we must realize that greatly increased emphasis on science is a 'must' for this country if we are to maintain our place in world leadership in the scientific age that lies before us."

POSTWAR READJUSTMENT PROBLEM

In the post-war period economic readjustment will occasion stress and strain to all our people. The workers who migrated by the tens of thousands will have to retrace their steps, or seek new locations. Even if wartime wage scales are maintained, unemployment or interruptions of employment will greatly reduce per capita income. Most tragic of all, of course, will be the lot of the less fit workers. As in the past he will be the first to go, when industry is forced to retrench, and he is least able to withstand disintegration of mental and moral fibre.—Joseph G. Sutton, M. D., in J. Med. Soc. N. J.

General News

COUNCIL BACKS TRANSFER TO STATE OF KANAWHA VALLEY HEALTH CENTER

The government has offered to transfer to the State of West Virginia, the Kanawha Valley Medical Center (rapid treatment center for venereal diseases), located at South Charleston, and the public health council voted to accept the offer following unanimous approval of the transfer by the Council of the State Medical Association.

A committee composed of Dr. John E. Offner, state health commissioner; Dr. A. L. Chapman, USPHS, acting deputy commissioner; Dr. Robert Wright, USPHS, surgeon in charge of the center; Dr. John C. Hume, USPHS, acting director of the Bureau of Venereal Disease Control of the state health department; and Dr. Walter E. Vest, president of the public health council, appeared before the Council of the State Medical Association at a meeting held at Huntington January 18, and explained the offer in detail.

It was brought out that the institution is now being operated at government expense under the supervision of the state health department; that the personnel consists of about fifty persons; that the bed capacity is about 100; that an average of 245 cases are being treated each month; and that the center is being operated by the government solely for the control and treatment of venereal diseases in a communicable stage.

It was explained that, under state control, operation could be extended by the state health department so that patients could be given treatment until cures are effected, thus lessening the possibility that such patients would become state wards for the remainder of their lives.

The Medical Center is one of 55 such institutions in the United States. It is said that more than a million dollars has been invested in the project. Most of the buildings were formerly used by the National Youth Administration. With the exception of possibly one clerk, all of the expenses of the operation of the center for at least the next two years will have to be borne by the government as no provision is made in the current budget bill for such expenses during the biennium beginning July 1, 1945.

BILLBOARDS AID CAMPAIGN

Billboard advertising is being used by the State Health Department in connection with its campaign to obtain the passage in the legislature of a bill requiring prenatal serological examinations for syphilis. Over 200 billboards, located in every section of West Virginia, are being used. The caption, "MY CHILD WAS BORN HEALTHY — I HAD A BLOOD TEST EARLY", is used in connection with each advertisement. The billboard campaign was made possible by funds donated by the Children's Bureau.

IMPORTANT MATTERS CONSIDERED BY COUNCIL AT HUNTINGTON MEETING

In a lengthy session held jointly with the legislative committee at the Pritchard Hotel, Huntington, January 18, the Council of the State Medical Association reviewed the work that has been done by the legislative and fact finding and planning committes in connection with the regular session of the legislature, which convened at Charleston, January 10.

Besides giving full endorsement to Governor Meadows' proposal for the appointment of an interim committee to study public health needs, bills prepared for introduction, slightly revised since the last meeting of the Council, were approved and the legislative committee was directed to make every effort to have them passed during the present session.

The program of the division of vocational rehabilitation of the State Department of Education was discussed by Dr. Thomas G. Reed, and the Council approved the program and ratified the appointment of Dr. Reed and Drs. Thomas H. Blake and Hugh A. Bailey as member of an advisory committee from the State Medical Association.

A proposal of the legislative committee that pathologists be licensed by the public health council to practice in West Virginia was rejected by a majority vote. The proposal, previously unanimously approved by the legislative committee, would have required applicants (a) to have an M. D. degree; (b) to have resided in a community in West Virginia for at least two years; (c) to be citizens of the United States; (d) to have the endorsement of the local medical society; and (e) to pass such examination as might be required by the public health council.

Mr. Blackwell, the legislative representative of the Christian Science Church in West Virginia, appeared before the Council and asked approval of a bill which it is proposed to have introduced in the legislature excluding the practice of Christian Science "in accordance with the tenets and teachings of the Christian Science church" from the provisions of the medical practice act. After full discussion, the Council voted unanimously to oppose the bill.

A letter from Dr. N. G. Angstadt, acting director of the division of maternal and child hygiene, was read, asking the approval of the appointment by Dr. Thomas L. Harris, President of the State Medical Association, of the following doctors as members of the association's advisory committee: Dr. James R. Bloss and Dr. Thomas G. Folsom, Huntington; Dr. Andrew E. Amick and Dr. W. E. Hoffman, Charleston; and Dr. W. P. Bittinger, Summerlee. The appointments were unanimously approved.

Dr. Thomas G. Reed presented the following resolution at the request of Dr. Andrew E. Amick, former member of the Council:

> WHEREAS, The Children's Bureau of the U. S. Department of Labor has issued a directive having the force of law, effective July 1, 1945, withholding approval of any state plan relative to the care of crippled children that sets up any restriction as to race, color, creed, residence, economic status, or

referral of the child to a clinic or hospital for diagnostic purposes by anyone other than the parent or legal guardian; and,

WHEREAS, the acceptance of any child for diagnosis without restriction as to economic status and referral of children by the parents or legal guardians only is in conflict with the established policy of caring for such cases by the division of medical services of the West Virginia State Department of Public Assistance; and,

WHEREAS, such procedure would in effect place hospitals, state and private, in the position of practicing medicine:

THEREFORE, BE IT RESOLVED, that if the above-mentioned directive is placed in force on July 1, 1945, and if the division of medical services of the West Virginia State Department of Public Assistance adopts the directive and makes it a part of the administrative rules and regulations governing the operation of the Crippled Children's program in West Virginia, that we, the practicing physicians of West Virginia, withdraw from participation in the Crippled Children's program of the West Virgina State D. P. A. as of July 1, 1945; and,

BE IT FURTHER RESOLVED, that the West Virginia State Medical Association adopt such program as may be necessary to make sure that no eligible or needy crippled child in the state of West Virginia be denied clinic or hospital examination and treatment as the result of our refusal to accept the above-mentioned directive.

Final action on the adoption of the resolution was postponed pending further study by the members of the Council.

The Council unanimously recommended the acceptance by the public health council of the offer of the government to transfer to the state the rapid treatment center (Kanawha Valley Medical Center), for the treatment of venereal diseases, at South Charleston. (Ed: See story in this issue of The Journal).

Dr. R. J. Wilkinson discussed the results obtained from the mailing of a psychiatric questionnaire to all members of the State Medical Association, stating that over 500 replies have been received, the majority of which favored some sort of psychiatric education to be afforded members through the medium of local society meetings and articles in the Journal. The importance of the subject, especially with the return of a large number of psychiatric cases from the armed forces, was stressed. The president was authorized to appoint a committee of five members to work out the necessary details for providing psychiatric education for the members of the Association.

The Executive Secretary reported that the deal for the sale of the house and lot owned by the Association located at 2907 Noyes Avenue, S. E., Charleston, had been closed and that the proceeds had been invested in treasury bonds, registered in the name of the Association.

The Council considered the recent ban of the ODT on non-essential conventions in 1945, and the executive secretary was directed to file application for permission to hold the annual meeting of the State Medical Association at Clarksburg, May 14-15.

Dr. Claude L. Holland and Dr. John M. Trach, both of Fairmont, were nominated for affiliate fellowship in the American Medical Association.

The meeting was attended by the following members and guests:

Drs. Robert J. Reed, Jr., Wheeling, chairman; Dr. T. M. Barber, Charleston, treasurer; Dr. R. J. Wilkinson, Huntington; Dr. R. D. Gill, Wheeling; Dr. J. P. Helmick, Fairmont; Dr. E. A. Trinkle, Weston; Dr. Walter C. Swann, Huntington; Dr. C. P. Artz, Grantsville; Dr. N. H. Dyer, Bartley; Dr. J. L. Patterson, Holden; Dr. W. P. Bittinger, Summerlee; Dr. Thomas G. Reed, Charleston; and Mr. Charles Lively, secretary ex officio, and Miss Catherine Clarkson, assistant secretary; Dr. R. O. Rogers, Bluefield, chairman, and Frank V. Langfitt, Clarksburg, George P. Evans, Iaeger, George F. Grisinger, Charleston, and Ray M. Bobbitt, Huntington, members of the legislative committee; and Dr. Walter E. Vest, president of the public health council, and Dr. J. E. Offner, state health commissioner.

164 CANCER CASES UNDER TREATMENT

In adopting policies, procedure and fee schedules of the Divison of Cancer Control, the Public Health Council has fixed the following qualifications for physicians treating cancer:

Surgeons must be fellows of the American College of Surgeons or qualified by the respective specialty boards recognized by the American Medical Association. Surgeons who do not qualify under these methods must have the recommendations of at least three doctors in their community who are fellows of the ACS or diplomates of their respective specialty boards.

Radiologists must be members of the Radiological Society of North America, the American Roentgen Ray Society, the American College of Radiology, or diplomates of the American Board of Radiology.

Pathologists must be members of the American Society of Clinical Pathologists, the American Association of Pathologists and Bacteriologists, or diplomates of the American Board of Pathology.

The recommendations were made by the cancer committee of the State Medical Association and the new advisory committee of the cancer control division. This new committee was appointed by the Public Health Council to act in an advisory capacity to the state health commissioner and the division of cancer control. The committee is composed of Drs. J. Ross Hunter, chairman, and R. K. Buford, and W. Paul Elkin, all of Charleston.

The cancer committee has recommended that the question of including cancer among diseases required to be reported be submitted to the House of Delegates of the State Medical Association at the annual meeting at Clarksburg in May, 1945.

The cancer control division, as of January 20, 1945, reported 162 active cases of cancer under treatment by physicians in various parts of the state. This compared with 64 cases reported as of September 15, 1944.

ASC WAR SESSIONS CANCELED

The 1945 series of War Sessions, sponsored by the American College of Surgeons, have been deferred, according to an announcement by Dr. Irvin Abell, chairman of the board of regents. The meetings were to have been held in St. Louis, Louisville, Milwaukee, and Cleveland.

GOVERNOR MEADOWS ASKS TWO-YEAR STUDY OF PUBLIC HEALTH NEEDS

The appointment of an interim committee to make a thorough study of health needs was suggested by Governor Clarence W. Meadows in his inaugural address delivered at the Capitol at Charleston, January 15. The following day, Speaker John E. Amos introduced in the House of Delegates a concurrent resolution (H. C. R. 4) providing for the appointment of such a committee.

The resolution was refered to the House Committee on medicine and sanitation, January 17, where it is being studied as this issue of The Journal goes to press.

Meeting at Huntington January 18, the Council of the West Virginia State Medical Association unanimously endorsed the resolution and directed the legislative committee to give it full support in the legislature.

While some minor amendments might be made to the resolution, it is believed that it will be adopted by both the House and Senate in substantially the same form in which it was introduced.

The administration-backed, council-endorsed resolution, far-reaching in its provisions and of interest to members of the profession and the public generally, is reproduced in full so that all the members of the State Medical Association may have an opportunity to study it while it is being considered by the legislature. The resolution follows:

House Concurrent Resolution No. 4—"Providing for the appointment of an interim committee to make a study, survey, and investigation of public health problems, institutional and civilian medical care, hospital service and medical education in West Virginia."

WHEREAS, The health of the people of the State of West Virginia is a matter of state concern; and

WHEREAS, The distribution of medical care for persons who cannot provide it for themselves and their families continues to be a matter of great public interest, calling for cooperative action on the part of public administrators and doctors in civilian practice to bring about a high order of medical care for the needy sick; and

WHEREAS, The Legislature feels that public health problems, including medical and hospital care for the needy, the operation of state hospitals and sanitariums, the distribution of medical care and hospital service through the medium of service plans, the extension of state and county health programs, and the continuance of a medical school at West Virginia University, should all receive careful study by a committee to be composed of members of the Legislature, doctors, and laymen; therefore, be it

Resolved by the House of Delegates, the Senate concurring therein:

That an interim committee consisting of two members of the Senate, to be appointed by the President thereof, and two members of the House of Delegates, to be appointed by the Speaker thereof, and not to exceed twenty-five persons to be appointed by the Governor, of whom five shall be duly licensed doctors of medicine practicing in West Virginia, one a member of the Hospital Association of West Virginia, one a member of the West Virginia State Nurses' Association, one a representative of a medical, surgical or hospital service plan organization functioning in West Virginia, one a member of the West Virginia State Pharmaceutical Association, and one a member of the West Virginia State Dental Society, is hereby set up for the purpose of making a thorough study, survey and investigation of the following matters of public interest:

(a) The administration of state-owned hospitals and sanitariums, particularly with reference to medical care provided at such institutions;

(b) The enlargement of the present public health program so as to provide adequate medical care and hospital service for the needy in all areas, including industrial and agricultural;

(c) The operation of existing prepaid voluntary medical-hospital-surgical service plans and the desirability of or necessity for amendments to present statutes, or the enactment of additional laws in connection therewith;

(d) The development of prepaid voluntary or compulsory health insurance plans designed to provide adequate medical care and hospital service for all of the people;

(e) The continuance of a two-year school of medicine at West Virginia University; the need for an additional building or buildings for that purpose; the practicability of the establishment of a four-year school of medicine; and the advisability of establishing a department of public health in connection with that school;

(f) The transfer of the supervision of superintendents of state hospitals and sanitariums from the Board of Control to the Public Health Council;

(g) Availability of hospital facilities in all areas of the state compared with the need therefor, particularly with reference to bed-capacity;

(h) Such other matters concerning public health as may properly come before the committee for study, investigation and report.

The Governor shall name a chairman and vice chairman from the members of the committee, which is authorized to employ such assistance as may be needed and fix compensation within the amounts made available by the appropriation therefor. Such committee may meet anywhere in the State, may take testimony, subpoena witnesses, and require the production of books, records and papers, and otherwise have all the power of a legislative committee under the statutes of this State. The State Health Commissioner, the President of the Board of Control, and the Director of the Department of Public Assistance shall be ex officio members of the committee. Vacancies occurring for any cause in the membership shall be filled by the officer authorized to make the original appointments.

The members of the committe shall receive no compensation for their services, but shall be entitled to their necessary traveling expenses incurred in the performance of their duties.

Such committee shall make a report to the Legislature on or before January 10, 1947, and shall include in such report such amendments to our present statutes and such additional measures as may be deemed necessary to carry the recommendations of the committee into effect.

The sum of twenty-five thousand dollars ($25,000), or so much thereof as may be needed, is hereby appropriated for the expenses of the committee, one-half thereof to be paid from the contingent fund of the Senate and one-half from the contingent fund of the House of Delegates upon proper requisitions of the Clerks of the two Houses.

MERIT SYSTEM COUNCIL EXAMS

The Merit System Council has announced unassembled examinations for positions in the West Virginia State Health Department and the Department of Public Assistance, as follows:

Deputy State Health Commissioner	$5400-6600
Director of Maternal and Child Hygiene	4800-6000
Assistant Director of Maternal and Child Hygiene	4200-5400
Nutritionist Consultant	2400-3000
Director of Communicable Diseases	4800-6000
Director of Venereal Disease Control	4800-6000
Venereal Disease Consultant	4200-5400
Field Clinician—Tuberculosis	3960-5160
Senior Health Officer	4440-6000
Junior Health Officer	3600-4200
Health Officer Trainee	3600
Director of Public Health Education	4200-5400
Public Health Nursing Supervisor (State Level)	2100-2700
Public Health Nursing Supervisor (Local Level)	1800-2400
Senior Bacteriologist	2640-3540
Senior Serologist	2640-3540
Chief of Medical Services (Department of Public Assistance)	4800-5760
Cancer Control Educational Consultant	3600-4200

Applications will be accepted continuously, but registers will be established as soon as sufficient applications have been received to furnish adequate competition. Appointments may be made at above the minimum salaries.

Applications should be mailed to Robert F. Bingaman, supervisor, Merit System Council, 212 Atlas Building, Charleston 1, West Virginia.

RELOCATIONS

Dr. Martin B. Woodward, director of the division of vital statistics, state health department, has resigned and is now on the staff at the Washoe County General Hospital, Reno, Nevada. No successor has yet been appointed.

* * *

Dr. M. A. Iatesta, of Charleston, has moved to West Orange, New Jersey.

* * *

Dr. C. N. Scott, plant physician at the American Viscose Corporation plant at Nitro, has resigned to accept a commission in the Navy. Dr. J. F. Cadden, who has been attached to the headquarters staff at Wilmington, Delaware, is serving as acting plant physician at Nitro.

DR. LANGS ACCEPTS APPOINTMENT

Dr. E. W. Langs, USPHS, (Res.), former district health officer for Norfolk and Princess Anne counties, Virginia, has been appointed acting director of the division of communicable diseases, state health department, to succeed Dr. A. M. Price, resigned. Dr. J. T. Duncan, director of the bureau of tuberculosis, has been serving as acting director of the division of communicable diseases since September, 1944.

LEGISLATURE ORGANIZED

All officers of the legislature have been named, including the personnel of Senate and House committees. Arnold Vickers, of Montgomery, is president of the Senate, succeeding John Paull, Jr., of Wellsburg, who was not a candidate for reelection at the general election in November, 1944. Fred Allen, of Marlinton, is president pro tempore, and W. Broughton Johnston, of Princeton, is chairman of the committee on the judiciary and minority floor leader. John C. Morrison, of Charleston, was named minority floor leader.

Dr. Ward Wylie, Major, MC, was named as chairman of the committee on medicine and sanitation. It is expected that Major Wylie will report at Charleston before February first. He is now stationed at Camp Mackall, North Carolina, following several months service overseas.

John E. Amos, of Charleston, was reelected speaker of the House of Delegates and J. Hornor Davis, of Charleston, is chairman of the committee on the judiciary and majority floor leader. Wright Hugus, of Wheeling, was named minority leader and Dr. George P. Evans, of Iaeger, chairman of the committee on medicine and sanitation.

J. Howard Myers, of Martinsburg, was elected clerk of the Senate, succeeding Fred Watkins. J. R. Aliff, of Fayetteville, was reelected clerk of the House.

DR. CHAS. A. DOAN NAMED DEAN

Dr. Charles A. Doan has been named dean of the Ohio State University College of Medicine and director of the University Hospital at Columbus. He succeeds Dr. Hardy A. Kemp, now in the military service. Upon his return, Doctor Kemp will assume his new duties as professor of public health hygiene.

Doctor Doan was on the program at the annual meeting of the West Virginia State Medical Association at Wheeling, in May, 1944.

AMERICAN PHARMACEUTICAL ELECTS

Earl R. Serles, of Chicago, has been elected president of the American Pharmaceutical Association. Other officers were elected as follows: First vice president, A. Lee Adams, Glencoe, Illinois; second vice president, Harold V. Darnell, Indianapolis; and, members of the council, George D. Beal, Pittsburgh, Robert P. Fischelis, Washington, D. C., and Glenn L. Jenkins, Lafayette, Indiana.

Roy Bird Cook, of Charleston, is a past president of the American Pharamaceutical Association.

REFRESHER COURSE IN OTOLARYNGOLOGY

The fifth semi-annual refresher course in laryngology, rhinology and otology will be conducted by the College of Medicine, University of Illinois, in Chicago, March 26-31. The course is intended primarily for ear, nose and throat specialists. Registration is limited to thirty. Communications should be addressed to Dr. A. R. Hollender, Departments of Otolaryngology, College of Medicine, University of Illinois, 1853 W. Polk Street, Chicago 12, Illinois.

DECLINE IN VD RATE TO CONTINUE

Any decline in the gonorrhea rate, if it be the result of a man-made effort and not a natural cycle in the disease itself, must be ascribed to the efforts which have been directed toward the control of the disease in recent years and which have been augmented greatly during the war period. Basically, these efforts have been dependent completely upon sulfonamide therapy until quite recently when penicillin has been added. The ability of the therapy to curtail the period of infectiousness, thereby markedly reducing the mathematical opportunity for transmission in a fair proportion of patients, may be responsible for placing in motion a goemetrically progressive decline in incidence. Such a decline may be expected to continue unless some unforeseen and unsuspected factors arise to impede the working of an accepted law of epidemiology.—J. F. Mahoney, M. D., and C. J. Van Slyke, M. D., in Bulletin of the N. Y. Academy of Medicine.

AAF PHYSICAL FITNESS TEST

Recently, 5,000 patients have been studied on their day of discharge from AAF hospitals with the AAF Physical Fitness Test. This test consists of chinups, pushups, and running against time, and is a standardized physical fitness test used for all AAF personnel. This group of patients averaged approximately 3 per cent better scores than those made by the other troops at the same bases. It is felt that this is concrete proof of the fact that, following the hospital's Convalescent-Reconditioning Program, men are being returned to duty ready for duty.—Col. Howard A. Rusk, M. C., in Southern Medical Journal.

HIDDEN GUILT

There is an indication that even the man considered the lowest in society, the murderer, is not very far or different from every other man, up to the highest. This realization should make a man who favors electrocution think twice as to what he is doing. It should make the society of which the murder is part consider wherein such a man's peers had permitted some neglect in the way of living. Electrocution is no deterrent from crime, whereas certainty of detection is a deterrent. Electrocution is a substitute for social inadequacies. Once a general wave of unorganized public excitement begins, the end result is some form of war or else actual or vicarious participation in a homicide. Electrocution hurriedly conceals universal guilt.—Arthur N. Foxe, M. D., Psychiatric Quarterly, reported in Digest of Treatment.

EMOTIONAL PROBLEMS OF CHILDHOOD

Some doctors, many psychologists and most patients minimize the severity of emotional and behavior problems of children. The reasoning back of such action is usually based on the fallacious concept that children have not lived long enough to have complicated personalities or that "they will grow out of it." Both of these ideas are essentially erroneous. A pre-school child may have lived in an environment so filed with tensions that his every reaction has had to be an escape from or a rebellion against situations which he could not alter. Certainly such conditions do not improve by themselves. Even in a new environment such a child would not have a pattern of behavior which he could use—he must have help if he is to learn to function as a well-organized individual. The fallacy of "growing out of it" is amply illustrated by that great body of adults who bear the scars of emotional immaturity patterns and who lack the adaptive techniques which would enable them to live more easily with their fellow beings.—E. W. Bellinger, M. D., in Westchester Medical Bulletin.

TIME RUNNING OUT

Uppermost in the minds of physicians is the question, "What significance does the recent national election have for the medical profession?" Those who have observed the Washington scene at first hand will have a ready answer. Legislation providing for the establishment of a national health program will undoubtedly be introduced. As regards the kind of a program which will be acceptable to Congress, much will depend upon what organized medicine does in the next few months.

The present Administration, as every physician knows, has been none too sympathetic to the viewpoint of organized medicine. Now that the Democratic majority in Congress has been materially increased, Administration leaders are undoubtedly of the belief that the people have given them the "go" signal on social legislation.

Of course, it is true that even among Democratic legislators there are many who oppose anything that smacks of "socialization" of medicine. This has been demonstrated time and again when medicine has come under discussion. These Democrats are just as adamant as Republicans where regimentation of medicine is concerned. But it is well to keep in mind that there is a growing sentiment favorable to broadening of the Social Security Act. There is also evidence to support the view that not only our veterans but all of our citizens will demand greater security in the postwar years.

This situation serves to confirm the opinion that your Observer has held for some time. Organized medicine has been on the defensive for too long. The American Medical Association should come forward immediately with its conception of a national health program. This program should include voluntary sickness insurance and diagnostic centers. It isn't enough to talk about the desirability of experimentation, to adopt platforms and principles. Our national organization must offer something tangible. Such a step will, to put it mildly, be welcomed by the rank and file of the medical profession, a great number of whom feel that it is long overdue.

Time is fast running out. We still have the ball. What are we going to do with it?—Med. Annals District of Columbia.

PHC MEETS FEBRUARY 26-28

The regular winter meeting of the Public Health Council for the purpose of examining applicants for licensure in West Virginia will be held at the Daniel Boone Hotel, Charleston, February 26-28.

PENICILLIN SHORTENS TREATMENT

The use of penicillin in the treatment of gonorrhea and syphilis has considerably shortened the length of stay required of patients at Kanawha Valley Medical Center, according to Dr. Robert Wright, surgeon in charge.

A few months ago, the average stay of patients at the center was 34 days for syphilis and 15 days for gonorrhea. Because of the use of penicillin, the period of treatment has now been shortened to 12 days for syphilis and 8 days for gonorrhea.

NEW C. & O. MEDICAL DIRECTOR

Dr. Joseph P. Webb, instructor in medicine and research fellow in aviation medicine at the University of Cincinnati, has accepted an appointment as internist and medical director at the Chesapeake and Ohio Hospital, at Huntington. Doctor Webb is a graduate of the University of Virginia, Department of Medicine, and has been located at Cincinnati since 1942.

MEETINGS CANCELED

The ninety-fifth annual session of the American Medical Association scheduled for Philadelphia, June 18-22, has been canceled by the Board of Trustees, following the request of the ODT that, wherever possible, all conventions, especially those national in character, be canceled where the attendance is expected to exceed fifty persons. It is possible that a meeting of the House of Delegates will be held in Chicago late in the spring or early summer.

The national conference on Medical Service scheduled for February 11, at Chicago, the 41st annual conference of the Council on Medicial Education and Licensure, scheduled for February 12-13, and the annual meeting of the Congress on Industrial Health, scheduled for February 14-15, have also been canceled.

DIGESTIBILITY OF SOY PROTEINS

Investigations recently conducted at Wayne University in Detroit have shown the soy proteins in Mull-Soy to have an average true digestibility of 89.6 per cent and an average biological value for maintenance of 95.6 per cent, compared with egg protein as 100 per cent.

The findings of this study using adult human subjects were published in a recent issue of the Journal of Nutrition, 28:209, 1944. The method of Murlin and associates was used to determine biological values.

Mull-Soy, a product of The Prescription Products Divison of the Borden Company, has been used extensively for infant feeding, and also for children and adults, as a palatable, well-tolerated and easy-to-digest milk substitute.

NURSES IN WORLD WAR II

There was one nurse for every 357 people in the United States in 1940; in 1900 there was one for every 5,389 persons, according to American Hospital Association figures. A total of 3,214 nurses served in the Civil War; 24,000 in the first World War; and 55,000 so far in this war.—Pennsylvania Medical Journal.

Doctors in the Service

Captain Charles M. Polan, of Huntington, who has been stationed at Las Vegas, New Mexico, and more recently at Manchester, New Hampshire, is now assigned to an air transport command base in the E. T. O. "We keep fairly busy," he writes, "taking care of routine cases,—colds, headaches, etc. We are quite a distance from any active front and see no casualties except those being evacuated to the United States by plane." Captain Polan was promoted to his present rank in October, 1944.

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Capt. John C. Condry, of Charleston, who is with a field hospital in Belgium, is authority for the statement that the closer the Allies move to the German border, the harder the German soldiers fight before retreating. His letter, dated November 27, 1944, was received early in January, and Captain Condry's prophecy that "we will soon be in Germany" has come true. Even at that time, there was much activity in his hospital, and he writes that "we have been very busy for the past three days. There are many things that I would like to tell you about my particular unit, but we are so closely identified with the 'tacticul situation' that most of the material I could write would probably be censored."

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Major M. G. Hresan, of Minden, who is assigned to the medical detachment, 113th Infantry, has been transferred from Camp Pickett, Virginia, to Fort Jackson, South Carolina.

* * * *

Major Philip Johnson, of Fairmont, is chief of a surgical team in an auxiliary surgical group somewhere in Holland.

* * * *

Lt. Col. James L. Blanton, of Fairmont, writes that within a week after his arrival with a general hospital in France he was busy with patients, and he reports that there has been no let-up in the work. His hospital is permanently located in one of the larger cities in France, and he states that the staff is made up principally of young men. Major Ralph D. Watkins, (DC), of Chester, is with his unit in Frnace, and Colonel Blanton reports that two enlisted men from West Virginia are also in his outfit.

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Major Paul H. Revercomb, who has been with the 120th General Hospital at Camp Van Dorn, Mississippi, is now assigned to Woodrow Wilson General Hospital at Staunton, Virginia.

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Dr. Frank M. Huff, formerly on the staff at St. Luke's Hospital, Bluefield, has been commissioned a Lieutenant in the USNR and is assigned to the U. S. Naval Hospital at Norman, Oklahoma.

* * * *

The first word we have received from the Philippines since Pearl Harbor comes from Major Paul R. Wilson, of Piedmont, who is with a station hospital that was moved in with the invasion forces. "Living in this area," he writes, "is rather rugged; however, we are all impressed with the

contentment of the happy liberated natives, and feel that our efforts have really been worth while."

Major Wilson, who was recently stationed in New Guinea, writes that he saw quite a good deal of Lt. Col Sobisca Hall, of Clarksburg, while there. He also said that he had been associated with Col. I. A. Wiles, formerly of Morgantown, who had been wounded but is now making a good recovery.

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Major L. A. Dickerson, formerly of Fayetteville and Oak Hill, has been transferred from the 232nd General Hospital at Camp Barkeley, Texas, to McCloskey General Hospital at Temple, Texas.

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The following interesting letter has just been received from Capt. W. E. Ackermann, of Wheeling, who is with a medical battalion somewhere in Germany:

A Pill-Box on the Ziegfried Line
10 Dec. 44

Dear Mr. Lively:

It is with great pride that I can now tell you that I landed in France on D-day with the 4th infantry division. The "Famous Fourth" hit the beach at H-hour, and then followed a long line of "firsts" for it,—first to enter Cherbourg; first to break through at St. Lo following the big bombing on July 25; and first to enter Paris. Then the mad rush through Belgium and into Germany.

I must admit now that we have decreased our tempo since reaching Germany three months ago, but our doughboys are advancing and fighting every inch of the way. We hope to add another "first" to our list soon.

Sincerely, W. E. Ackermann.

* * * *

Capt. Herbert Shanes, of Coalwood, is battalion surgeon with a Signal Air Warning Battalian operating in Italy. He participated in the invasion of Southern France via Corsica, and was returned to Italy after the Germans were driven from France. Captain Shanes was formerly with a fighter squadron operating in the Mediterranean.

* * * *

"Most welcome cards received from our friends back home, and music on the radio, are about the only reminders we have down here that Christmas has come," writes Lt. R. R. Bonar, of Holden, on Christmas Day somewhere in the Southwest Pacific. Lieutenant Bonar is serving as flight surgeon for a squadron of marine fighters. He says that censorship regulations will not permit him to write anything concerning his present work.

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Capt. John S. Gaynor, of Wheeling, is assigned to to the 88th Field Hospital at Camp Cooke, California.

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Capt. C. W. Shafer, of Spencer, is assigned to regional headquarters stationed on an island somewhere in the Southwest Pacific.

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Major Gilbert O. Crank, of Lawton, is now assigned to the Veterans Hospital at Dallas, Texas.

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Lt. U. C. Lovejoy (MC) USNR, of Omar, has been transferred from a Marine Amphibian Corps to a Medical Battalion operating somewhere in the Pacific.

Capt. Herman L. Hegner, is serving as Ward Officer with a Station Hospital in Italy which in twenty months overseas has treated approximately 15,000 patients while operating in Algeria, Tunisia and Italy.

One of the first Station Hospitals to be sent to the Mediterranean Theater, the unit's first assignment took it to Ain Mokra, a village near Bone, Algeria, and two months later the hospital was ordered to Ferryville, Tunisia, where the organization remained ten months before reaching Italy in June, 1944.

The following release concerning this base hospital has been received from Peninsular Base Headquarters, Italy:

> It was at Ferryville that an abrupt departure from the customary mission of a Station Hospital was authorized, changing the organization overnight from a 500-bed unit to a 3000-bed convalescent installation which a short time later became a "conditioning center." Immediately adapting themselves to new and increased specialized duties, officers and men were responsible for the reconditioning, mentally and physically, of thousands of front-line troops who had reached a convalescent stage and were being returned to combat duty after recovery was complete. In addition to this function, the hospital admitted service troops from a wide surrounding area.
>
> Moving to Italy, unit members already have earned their first bronze battle star by opening their hospital on an important communication line behind the front. Here they received, within twelve days, 650 patients, mostly from adjacent evacuation hospitals, which were thus enabled to pack up and move forward.
>
> At present, patients are finding themselves comfortably installed in a former tuberculosis sanitorium, an imposing structure of modern and convenient appointments.

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Lt. Comdr. W. B. Scherr, of Morgantown, is assigned to a ship operating in the Southwest Pacific. He writes that his membership card for 1945 reached him December 27, just after he went aboard ship after attending a medical meeting on a recently acquired island.

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Lt. W. L. Neal (MC) USNR, of Huntington, who has been stationed at the U. S. Naval Hospital at Corona, California, is now assigned to the Naval Operating Base at Terminal Island, San Pedro, California.

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Capt. Clinton B. Chandler (MC), of Iaeger, who has been attached to a station hospital at Pomona, California, for several months, has been transferred to Camp Haan, California.

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Lt. Wilkin R. Stevens (MC), of Kimball, has been transferred from the U. S. Naval Receiving Barracks at Savannah, Georgia, to a small craft training center in California, where he is serving as senior officer on board his ship.

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The Bronze Star has been awarded to Lt. Col. Bert Bradford, Jr., of Charleston, for meritorious service in Belgium. Colonel Bradford has been

(Continued on Page XXV)

DOCTORS IN THE SERVICE

(Continued from Page 64)

attached to an evacuation hospital overseas since the summer of 1943, and has seen service in England, France and Belgium.

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Lt. Col. John W. R. Norton, who presented a paper on the subject of "Observations on Improved Disease Control Methods Among Troops" at the annual meeting of the West Virginia State Medical Association at Wheeling last May, is now Chief of the Preventative Medicine Service, Hqs. 9th Service Command, Fort Douglas, Utah. He was formerly attached to the office of the Surgeon General of the Army, at Washington.

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Captain Paul E. Vaughan, of Beckley, is assigned to the Altitude Training Activity, Harlingen Army Air Field, at Harlingen, Texas.

Obituaries

JOHN HAMILTON HANSFORD, M. D.

John Hamilton Hansford, M. D., 80, died at his home at Pratt, Tuesday December 26, 1944, after a brief illness.

Doctor Hansford was born in Pulaski, Virginia, son of the late Mr. & Mrs. Felix G. Hansford, II, member of a pioneer Kanawha family. He graduated from the University of Louisville in 1888, and was licensed to practice medicine in West Virginia the same year. He lived at Crown Hill, West Virginia, until 1899, when he moved to Pratt, where he practiced until his retirement in 1939.

He was an honorary member of the Kanawha Medical Society, the West Virginia State Medical Association and the American Medical Association. He had served as surgeon for the Chesapeake & Ohio Railway Company and as a member of the staff at the old Sheltering Arms hospital, at Hansford. He had served as president of the Kanawha Medical Society.

Besides his widow, he is survived by two sons, John Hamilton Hansford, Jr., of Charleston, and Edward M. Hansford, of Montgomery.

GEORGE TUDOR THORNHILL, M. D.

Dr. George Tudor Thornhill, 72, of Bluefield, died November 9, 1944, of coronary occlusion and carcinoma of the prostrate. He graduated from the University of Virginia Department of Medicine, at Charlottesville, in 1894, and was licensed to practice in West Virginia in 1895. He was a former member of the State Medical Association and the American Medical Association, and at the time of his death was a director of the Flat Top National Bank at Bluefield.

PETER IRVING, M. D.

Dr. Peter Irving, secretary and general manager of the Medical Society of the State of New York, died December 28, 1944, at Roosevelt Hospital, in New York City, following an illness of several months. He had been managing editor of the New York State Journal of Medicine since 1937.

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County Society News

BARBOUR-RANDOLPH-TUCKER

A. L. Reed, of Newburg, member of the West Virginia Senate from the 15th Senatorial District and H. J. Poling and Cleon Raese, members of the House of Delegates from Barbour and Tucker counties, respectively, were guests of the Barbour-Randolph-Tucker Medical Society at the regular monthly meeting held at the United Brethren Church, Philippi, Thursday evening, December 21, 1944. There was a full discussion of the legislative proposals of the West Virginia State Medical Association, and the program was arranged so as to familiarize the members of the legislature with the items outlined for action by the legislature at the regular session in January.

Dr. F. K. Lyon, of Parsons ,was reinstated as a member of the society.

The following officers were elected for 1945: President, H. S. Parker, Thomas; first vice-president, P. L. Gray, Elkins; second vice president, Glenn Ashworth, Philippi; and secretary-treasurer, Guy H. Michael, Parsons. Dr .W. G. Harper, of Elkins, was elected member of the board of censors for a three-year term.

GUY H. MICHAEL, M. D.,
Secretary.

CABELL

Dr. Joseph L. Lawrence, director of the Washington bureau of the A. M. A. council on medical service and public relations was the guest speaker at a dinner meeting of the Cabell County Medical Society held at the Pritchard Hotel, Huntington, January 4, at 7:00 P. M. His subject was, "The Medical Outlook," and he discussed in detail the finding of the Pepper Committee, and the outlook with reference to proposed amendments to the social security act.

The meeting, which was attended by over seventy-five doctors from Huntington and nearby cities, was preceded by a cocktail hour. Dr. W. C. Kappes, president of the society, presided as chairman.

At the regular monthly meeting to be held at the Pritchard Hotel, February 8, Dr. Russell Haden, of the Cleveland Clinic will be the guest speaker. He will speak on the subject of "Some Puzzling Diagnostic Problems in Hematology."

COLE D. GENGE, Secretary.

FAYETTE

Dr. T. K. Laird, of Laird Memorial Hospital, Montgomery, was the guest speaker at the regular monthly meeting of the Fayette County Medical Society, held at the Hotel Hill, Oak Hill, January 9. His subject was, "The Management of Peptic Ulcer."

The following officers were elected for 1945: President, W. E. Bundy, Oak Hill; first vice president, J. B. Thompson, Oak Hill; second vice president, Upshur Higginbotham, Montgomery; secretary-treasurer, Eugene S. Carter, Jr., Minden.

EUGENE S. CARTER, JR.,
Secretary.

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Vol. XXXXI March, 1945 No. 3

A CONSIDERATION OF CERTAIN RADICAL PROCEDURES IN THE TREATMENT OF CANCER*

By GEORGE T. PACK, M. D.**

The surgical treatment of cancer has two aims: (1) the immediate result, namely, the removal of the tumor and any metastases which are present at the time of surgical intervention, and (2) the far-reaching result or the prevention of recurrence of the disease or metastases to other regions. In an evaluation of end results, it is evident that recurrences and some later-appearing metastases are often due to the failure of surgeons to make the first surgical intervention a radical procedure. Increased knowledge of the characteristics of tumors from a pathological standpoint and the methods by which tumors spread to other parts of the body, has led many surgeons to advocate the radical procedure as the first operation.

Inasmuch as it is impossible to discuss all fields of cancer surgery, three operations have been chosen as representative of the progress achieved by radical surgery: (1) interscapulothoracic amputation for malignant tumors of the upper extremity, (2) groin dissection for primary and metastatic tumors of the inguinal, femoral and iliac regions and (3) total gastrectomy for cancer of the stomach.

*Presented before the 76th annual meeting of the West Virginia State Medical Association, Charleston, May 18, 1943.

**From the Memorial Hospital for Cancer and Allied Diseases, New York, N. Y.

INTERSCAPULOTHORACIC AMPUTATION FOR MALIGNANT TUMORS OF THE UPPER EXTREMITY

Although this is not a new development, a survey of the literature indicates that it is done with surprising infrequency. In 1887 Berger described all previous cases and added his own experience. Buchanan analyzed the cases prior to 1900, 141 in all. In 1942 the author and colleagues collected the cases from 1900 to date, with a total of 180, 31 of which were personal cases. The number of personal cases of interscapulothoracic amputation operated on has since increased to 42, without an operative death.

The technique of the operation was standardized by Berger and the classical procedure still bears his eponym. Other procedures are: The LeConte modification, the Kocher anterior approach, the Littlewood posterior approach, and many variations of these. In the author's series, the Berger technique was carried out in 21 instances, and the Kocher procedure in 10 instances, with no operative deaths in the total number of cases. At the time of the report, the average postoperative duration of life was 21.8 months and seven patients were still living, one for seven years. The Kocher technique was used during the last five years of that period and it is felt that that procedure will undoubtedly gain favor because it can be performed with greater ease and safety.

OPERATIVE TECHNIQUE FOR INTERSCAPULOTHORACIC AMPUTATION

The patient is placed on his back with the involved shoulder elevated. The corresponding arm

is well wrapped from fingers to shoulder and left free and mobile to be held by an assistant. By this means the arm may be held in various positions to facilitate the anterior or posterior dissection of the shoulder. A racquet incision is made around the shoulder with the linear incision overlying the clavicle, which is initially exposed and resected using a Gigli saw (fig. 1). The anterior approach to the shoulder affords the best exposure of the subclavian vessels; therefore, after the clavicle has been resected, the ligation of the subclavian vessels is postponed until the anterior incision is carried through the pectoral muscles into the axilla. The underlying subclavian artery is mobilized and ligated first without hazard of injuring the overlying vein, which is prone to occur if the ligation is attempted by the classical Berger procedure of exposure through the bed of the clavicle. The proximal stump of the artery and vein are always doubly ligated. The surface of the brachial plexus is painted with 10 per cent cocaine and or 2 per cent novocain solution is injected into the nerve trunks. After division of the various nerve components of the plexus, the ligated proximal stumps are injected with 95 per cent alcohol. The arm is

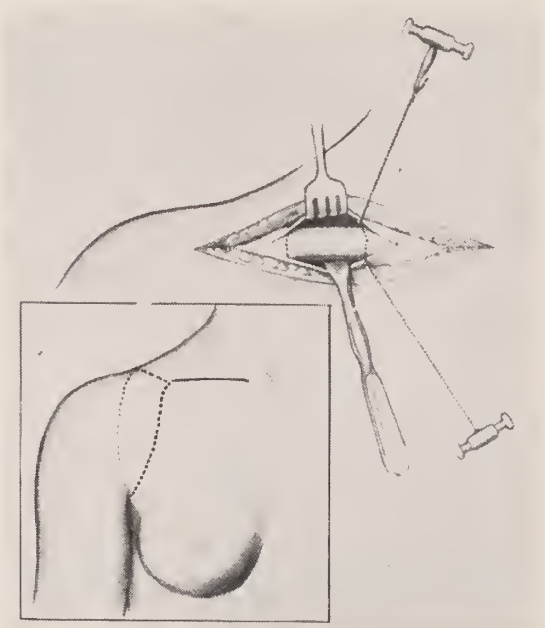

Fig. 1. Incision for preliminary division of clavicle for ligation of axillary vessels and exposure of brachal plexus. Insert shows skin incision.

now brought forward and the muscles of the posterior flap, along the vertebral margin of the scapula are divided, care being taken to clamp, sever and ligate the transverse cervical artery before it retracts. With the scapula freed of its muscular attachments, the amputation is complete. The skin incision heals with a surprisingly good linear scar (fig. 2).

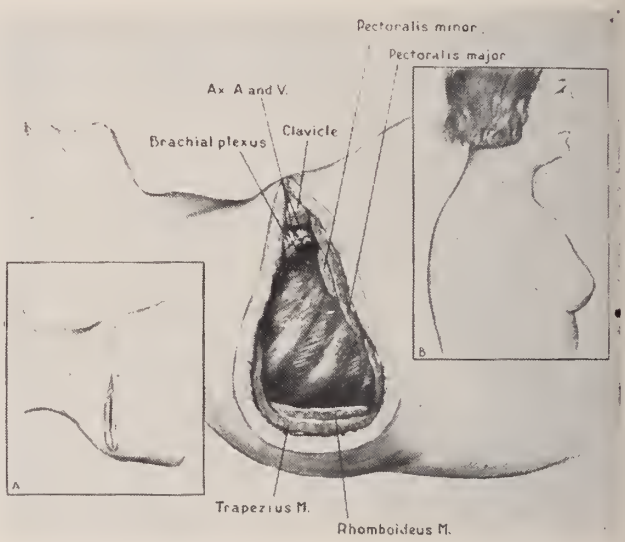

Fig. 2. Wound ready for closure. Inserts demonstrate transverse linear scar.

INDICATIONS FOR INTERSCAPULOTHORACIC AMPUTATION

The necessity for performing such a massive, disabling and disfiguring amputation demands a clear conception of the indications, which may be enumerated in the following decalogue:

1. Non-neoplastic conditions, such as extensive trauma with irreparable damage, gunshot wounds, tuberculosis, and incurable osteomyelitis. These are outside the scope of this discussion.

2. Intractable pain caused by incurable tumors of the shoulder girdle even though metastases to lungs are present. The purpose here is palliation only, in getting rid of a cumbersome, painful and often suppurating extremity.

3. All malignant tumors requiring disarticulation of the humerus at the shoulder.

4. Many bone sarcomas proximal to the elbow. Periosteal sarcomas, sclerosing osteosarcomas and others of low-grade malignancy, those well confined to the bone and those involving the lower half of the humerus, may be treated by more conservative amputations. But the majority of the other bone sarcomas, particularly those involving the upper end of the humerus, those extending upward through the entire medullary cavity and those which have extended beyond the confines

of the bone to infiltrate surrounding normal tissues, are more suitable for interscapulothoracic amputation.

5. The rule of Halstead and Corner that the amputation should be performed above the proximal attachments of the muscles which pass over it. Although this is a good fundamental principle an exception can be made in the case of some neurosarcomas and osteosarcomas of low-grade malignancy.

6. All malignant tumors invading the shoulder joint capsule.

7. Infiltrating malignant tumors involving the deltoid, subscapularis and pectoral muscles. This rule applies invariably to the unencapsulated neurosarcomas, rhabdomyosarcomas and fibrosarcomas but exceptions are admitted in the case of liposarcomas and the occasional lymphosarcomas which extend beyond the lymph nodes to involve the surrounding soft tissues.

8. Inoperable axillary tumors adherent to blood vessels, brachial plexus, shoulder joint and muscles, permitting no attempts at local excision, however radical.

9. Sarcomas of the clavicle or scapula. Interscapulothoracic amputation is indicated for these tumors only when the local neoplasm is so intimate to the shoulder joint that partial or complete scapulectomy or resection of the clavicle would not be possible or feasible, and especially if the arm is useless and painful.

10.Relatively benign tumors causing symptoms and disability because of their size and location, e. g., certain huge chondromas developing in the neighborhood of the shoulder joint.

ADVANTAGES OF INTERSCAPULOTHORACIC AMPUTATION OVER DISARTICULATION

The following advantages of interscapulothoracic amputation over disarticulation for malignant tumors of the upper arm may be mentioned:

1. The lymphatics and veins are removed at a much higher level.

2. The shoulder muscles with their natural fascial planes are entirely removed, which is especially important if the tumor has shown invasive tendencies.

3. The more radical operation not only permits dissection of the axilla but a removal of the axillary boundaries.

4. The mortality is no greater. The 31 consecutive interscapulothoracic amputations reported by the author were done without an operative death, which is proof enough of the safety of this operation. This record has been extended to cover 42 operations of this type.

5. The wounds resultant after interscapulothoracic amputation heal more satisfactory as there are practically no dead spaces to be obliterated.

6. The deformity is greater but not enough to be a deciding factor.

END RESULTS

In the survey of 180 collected cases from 1900 to date there were only 9 operative deaths. Nearly half of these cases were lost to follow-up. But it is encouraging to realize that 43 cases (23.9 per cent), were living, and all except five of these without disease. The average postoperative survival period was 16.2 months, which compares favorably with the average of 21.8 months for 15 patients in the Memorial Hospital series, in which, as was stated previously, there were no operative deaths. The histological type of the tumor has a bearing on the postoperative survival.

RADICAL GROIN DISSECTION FOR PRIMARY AND METASTATIC MALIGNANT TUMORS

Evaluation of end results of a certain surgical procedure from time to time is a most valuable aid to the surgeon. If the results are favorable there is a tendency to be satisfied with the present technique. On the other hand, poor results should lead to a thorough analysis with a view to evolving a more satisfactory procedure. This was particularly true in the author's series of operations for melanoma metastatic to the lymph nodes in the groin. During a recent period of twelve years, 122 groin dissections were performed, the majority of which were of a superficial character, with a more radical procedure in the last three or four years of the period. In addition to 60 operations for metastatic melanoma involving the groin, it was decided to include in this study 55 operations for metastatic epidermoid carcinoma and 7 for primary sarcoma of the inguinal and femoral regions. It is well known that with melanomas there is a high incidence of nodal involvement; in 44 of the 60 cases of melanoma and in 35 of 55 cases of epidermoid carcinoma there was definite evidence of metastasis in the groin nodes on admission.

INDICATIONS FOR RADICAL GROIN DISSECTION

These may be briefly stated as follows:

1. The frequency of local recurrence in the groin following the usual superficial dissection offers a strong argument for the more frequent employment of the radical operation.

2. The umbilicus, the infra-umbilical or midabdominal skin, the skin of the anus and the scrotum, the perianal zone and the female genitals all may be involved by cancers which are capable of metastasizing to the groin nodes. The entire procedure of excision of the primary and metastatic cancers in one or both groins can be performed in one, two or three stages, but the preferable procedure is to excise the primary cancer and the lymph nodes *en bloc*.

Among the postulates for successful groin dissection are the following: (a) The primary cancer, wherever located, should be controlled or controllable and should be treated first. (b) There should be no clinical evidences of blood stream metastases. (c) The lymph stream must be centralward without evidence of blockage and retrograde extension. (d) It should be technically possible to excise all of the lymph nodes involved or suspected of becoming involved in the immediate neighborhood. (e) There must be some possibility of interruption of the lymphatic spread of the cancer by an excision of these nodes. (f) There should be evidence that the cancer has drained only to the regional groups of nodes to be attacked in the groin dissection.

ELECTIVE GROIN DISSECTION

The operation called by this name for want of a better term, refers to the elective removal of lymph nodes in the groin even though they are not palpable and there is no clinical evidence of metastases being present. In the author's opinion this procedure should be done routinely for all melanomas of the extremities and genitals. In a group of seven dissections of this type for melanoma of the lower extremities, two of the patients were found to have microscopically identifiable melanoma in the inguinal lymph nodes even though the surgeon at the time of operation found no gross evidence of involvement. This early operation affords the patient a better and earlier opportunity for cure in the case of melanoma but is not done in the case of epidermoid carcinoma occurring in the lower extremities.

TECHNIQUE OF RADICAL GROIN DISSECTION

The patient is placed on his back with the corresponding thigh slightly abducted and externally rotated. A wide ellipse of skin is removed as it lessens the possibilities of local skin recurrence, it avoids the almost inevitable sloughing of the skin which follows the wide fascial dissection and it hastens wound healing (fig. 3). The subcutaneous fat is dissected widely from the skin in all directions until the femoral trigone, the inguinal regions

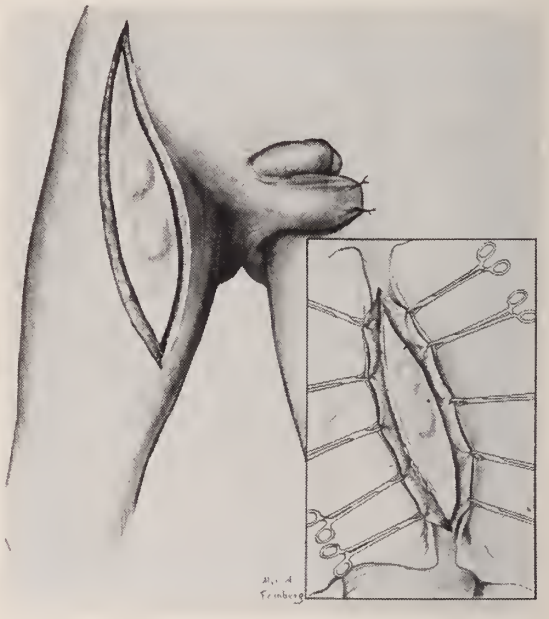

Fig. 3. Scope of incision for groin dissection. The ellipse permits necessary sacrifice of condemned skin. Note dissection of incision and upper and lower limits. Scrotal skin is sutured temporarily to opposite thigh. Insert shows use of tenacula to facilitate subcutaneous and fascial dissection.

and iliac quadrant are denuded. The dissection now persists deeply to the underlying muscles, through the fascia, which is dissected with the fat and lymphoid tissues *en bloc* in a medial direction. The dissection is started from above downward, removing the fascia from the muscles of the upper anterior thigh and exposing the inguinal canal and finally the femoral vessels. The adventitial layer of the artery and vein is stripped together with the fat and fascia intervening between these vessels. The external saphenous vein is severed and ligated near its junction with the femoral vein. This completes only the superficial part of the dissection. The second immediate step is the exposure of the inguinal canal and an incision of the external oblique and transversalis muscles down to the properitoneal fat (fig. 4). The exposure is materially

aided by preliminary ligation of the deep epigastric vessels where they come off at right angles from the external iliac artery and vein. The lymph node of Cloquet is usually found resting anteriorly on the femoral vessels. In order to secure even

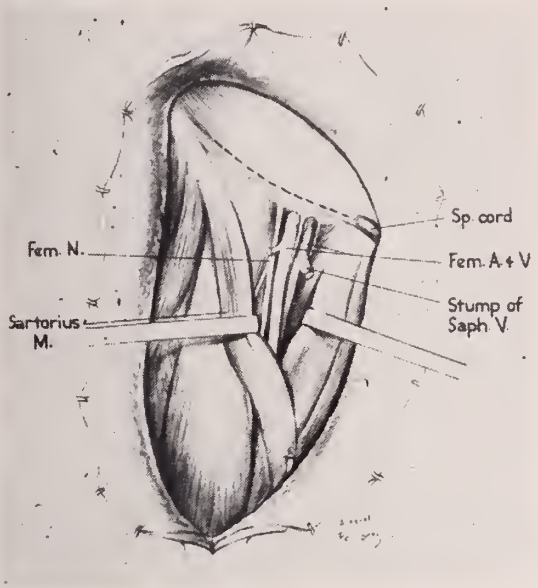

Fig. 4. Completion of superficial stage of groin dissection. The neurovascular femoral bundle has been cleanly dissected down through Hunter's canal. The fascia overlying the pectineus iliacus, sartorius, abductor brevis and rectus femoris muscles has been removed. Proposed incision to expose the inguinal canal is indicated by the dotted line.

greater exposure, deep retractors are inserted to withdraw the peritoneum and abdominal viscera upward and medially out of the operative field (fig. 5). The peritoneal cavity is not entered during the dissection which is carried out entirely retroperitoneally. The chain of lymph nodes, fat and areolar tissue found along the external iliac vessels is dissected from above downward, including those overlying the obturator foramen. The entire groin dissection is performed with the scalpel and at the completion of the operation practically no fat or fascia should be left in the operative field except the normal structures necessary to reconstruct the inguinal ligament and canal.

END RESULTS

The hazard of the radical operation is undeniably greater than the superficial groin dissection. The mortality rate is increased when bilateral dissections are done and when groin dissections are done at the same time as vulvectomy, or amputation of the penis or lower extremity. In our series of 122 groin dissections, of which 41 were bilateral there were two operative deaths; the mortality rate was therefore 1.6 per cent. Thirty-nine patients were living and well (31.9 per cent). Four of the patients had survived the operation five years and five for ten years. In a cancer institute such as the Memorial Hospital, the percentage of advanced cases or those of borderline operability is much greater than naturally occurs in a general hospital. Twenty-eight of the patients, 23 per cent of those having only *superficial* dissections, developed recurrent cancer in the groin. This may be the best argument for the *radical* groin dissection, for in the earlier operations in this series a superficial procedure only was carried out.

TOTAL GASTRECTOMY FOR CANCER

Although the first total gastrectomy for cancer was performed sixty years ago, this procedure was not carried out with any degree of frequency until the last decade. In a survey of the literature to July 1942, 303 instances were found which were suitable for analysis. In view of the great frequency of cancer of the stomach, total gastrectomy is still not generally accepted.

INDICATIONS FOR TOTAL GASTRECTOMY

There is only one proper indication for total gastrectomy, namely, the presence of a malignant tumor in the stomach which cannot be safely removed by partial gastrectomy. This statement may

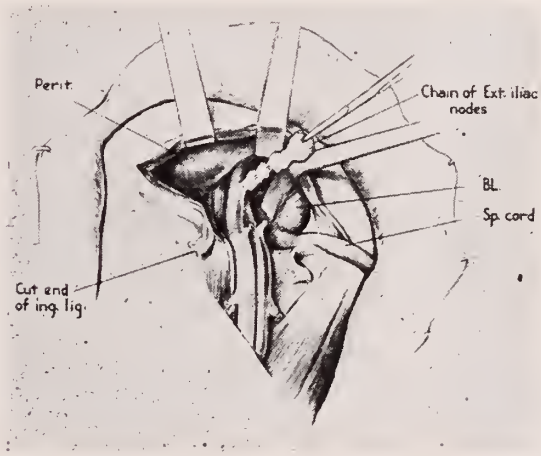

Fig. 5. Dissection of deep iliac lymph nodes. Displacement of peritoneum medially to afford adequate exposure.

be further explained by the following:

1. The location of the tumor will determine whether or not it can be removed by partial or total resection. The use of roentgenograms and gastroscopy will determine this point.

2. The presence of metastases should be determined before the radical procedure is attempted. Metastases extending high on the lesser curvature would not necessarily contraindicate total gastrectomy. But it is the author's opinion that with metastases in the liver the radical procedure should not be undertaken.

3. Whereas total gastrectomy is usually reserved for cancer of the stomach, there are times when it is justifiable for benign lesions, such as huge ulcerating leiomyomas and diffuse *polyposis en nappe*. Linitis plastica or the leather bottle type of stomach presents the ideal case for total gastrectomy. In the collected cases, there were four instances of multiple primary tumors in the stomach, one case of polyposis and one of neurolemmoma.

4. In view of the great risk involved in this operation, it is felt that it should be undertaken with the thought that it is a curative operation and not merely a palliative one.

5. A thorough examination should be made to determine the resectability of the tumor and the condition of the neighboring regions. The esophagus must be sufficiently mobile to permit a satisfactory and safe anastomosis.

TECHNIQUE FOR TOTAL GASTRECTOMY

Since complete details of the technique of total gastrectomy have been presented in an earlier article, discussion will be limited here to a few of the variations in technique which have been developed in recent years.

The removal of the entire stomach is followed by an anastomosis of the esophagus to the jejunum. This is accepted as the type of anastomosis which brings about the most favorable results. The surgeon should make a decision as to whether the jejunal loop should be brought anterior or posterior to the transverse colon; the choice of the retrocolic or antecolic position depends upon the partciular case at hand, although the latter technique apparently has the wider application.

Whenever the retrocolic position of the jejunal loop is chosen the stoma in the mesocolon should be lightly sutured around the ascending and descending jejunal limbs in order to prevent possible herniation of the small intestines and consequent intestinal obstruction. In those few instances in which we have employed the retrocolic anastomosis, the supplementary entero-enterostomy between the ascending and descending jejunal limbs has been constructed below the transverse mesocolon, which afforded the most direct route for the passage of bile and pancreatic juice to the distal jejunal limb. Whenever the jejunal loop is brought anterior to the transverse colon for anastomosis to the esophagus, a site is selected from 15 to 18 inches from the ligament of

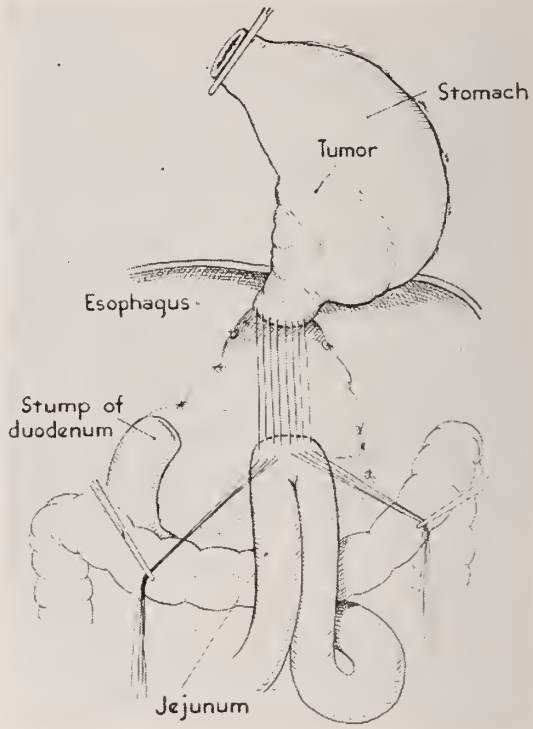

Fig. 6. Technique of total gastrectomy. Initial step in esophagojejunostomy. Placement of interrupted untied mattress sutures at a distance between jejunum and posterior wall of esophagus. The jejunum is then permitted to slide up along the sutures into its proper position after which the sutures are tied.

Treitz. This loop of intestine should not be too redundant, nor should it be so tight as to pull downward on the anastomosis, which it may do if it is constructed so as to create a hammock rest for a heavy transverse colon. This hazard can be avoided by three procedures, namely: (1) the employment of a sufficiently long loop of jejunum, (2) the routine removal of the great omentum with the stomach and (3) the anchorage of the jejunum to the diaphragm.

It is most important to make the anastomosis strong enough to stand any strain to which it may be put. Crescent-shaped anterior and posterior flaps are prepared from the diaphragm and esophagus to be used later for suturing to the wall of the jejunum below the anastomosis. These peritoneal flaps will not only offer additional support in bear-

ing the weight of the jejunal loop but will also aid in sealing the anastomosis and lessening the hazard of leakage. The fixity of the anastomosis becomes even greater and more secure by supplementary anchorage of the jejunum to the diaphragm after the anastomosis has been completed.

Certain surgeons have advocated ligature of the esophagus and burial of the closed esophaegeal stump into the jejunum; they depend on the later restoration of continuity of the lumen by digestion of the occluding catgut ligature. In the majority of cases, however, it is more feasible to effect a layer closure of the anastomosis.

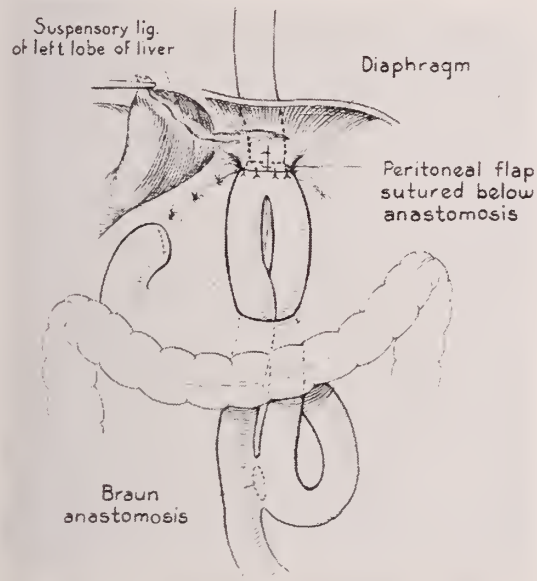

Fig. 7. Technique of total gastrectomy. The esophago-jejunal anastomosis has been completed. The diaphragmatic peritoneal flap has been sutured to the jejunum below the anastomosis. The displacement of the left lobe of the liver is illustrated.

Lahey has advocated the abandonment of the lateral anastomosis of the ascending and descending jejunal limbs. In his opinion the use of a long proximal loop without the supplementary entero-enterostomy provides a substitute pouch where digestion can take place before the ingesta are hurried along the small intestines. We prefer the routine employment of a lateral communication between the ascending and descending jejunal limbs for several reasons, namely: (1) without such an anastomosis there is a very great back pressure against the duodenal stump, (2) the food which is swallowed may enter the proximal jejunal limb and remain there for hours, or even days, which would cause considerable distress and (3) the bile and pancreatic juice secreted into the duodenum in the absence of a Braun lateral anastomosis will necessarily have to be regurgitated into the esophagus before it enters the descending or distal jejunum. With the presence of the entero-enterostomy the bile and pancreatic juices can pass directly into the distal jejunum through this short circuit, as well as any food which enters the proximal limb.

END RESULTS

The operation of total gastrectomy will always be more hazardous than subtotal resection. A survey of the literature revealed that the radical operation is now being performed with greater frequency and greater safety in each successive decade. An operative mortality averaging only 37.6 per cent for the total of 298 total gastrectomies for cancer which were reported from 1884 to 1942 gives us good reason for optimism. There were 6 operative deaths in the author's series of 20 cases for total gastrectomy, which represents an operative mortality of 30 per cent.

The three most common complications following total gastrectomy were peritonitis, pneumonia and shock. With an increase in the use of reinforcement of the anastomosis, as outlined in this paper, it is to be hoped that there will be a reduction in the number of cases of peritonitis following the operation. To combat pneumonia developing postoperatively, the injection of eucupine in oil into the intercostal nerves at the end of the operation has been employed with success. The routine use of transfusions has played a great part in the successful treatment of postoperative shock.

In the series of cases analyzed there were 92 cases of subsequent death, with the cause of death given for 80 patients. At least 9 of these patients had no evidence of recurrent cancer at the time of death. Sixty-six of the patients died of metastases, which is a rather discouraging side of the picture. The only means of converting this operation from a palliative to a curative endeavor would be by improvement in the early diagnosis and immediate intervention, in which case partial rather than total gastrectomy might be more feasible.

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POSTOPERATIVE URINARY RETENTION

By DAVID W. PALMER, M. D.
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It is common knowledge to the general surgeon that following operations on the abdomen, particularly the lower abdomen and perineum, urinary retention not infrequently occurs. This problem is often more serious than one is led to believe. In the early stages of retention, the decision of the doctor often determines whether the patient is going to have urinary tract injury with a prolonged convalescence, or whether the urinary tract will be responsible for an insignificant part of the patient's time in the hospital. I wish to draw attention to the danger signal—when the doctor is first notified that the patient has not voided for perhaps twelve hours. It is at this very point that damage to the bladder begins and progresses proportionately with the amount of urine collected in the bladder and the amount of time it is allowed to remain there. As a rule, most surgeons shrink from the idea of catheterizing their patients. They believe that this procedure is the planting of seeds for cystitis. The purpose of this paper is to show that catheterizing properly done for postoperative retention, is not the cause of postoperative cystitis, but the retention itself for which the catheterization was done, is the causative factor.

There are numerous reasons why a patient may develop postoperative retention. Among these causes in patients who preoperatively had a normal bladder mechanism are: (1) the recumbent position of the patient who was but a short time ago up and active, (2) difficulty of urination on a bed pan, (3) low abdominal pain or pain from small lacerations or tears about the genitalia following obstetrical or gynecological procedures, (4) spinal or caudal anesthesia and (5) medication which may prevent the patient from sensing the distended bladder or which interferes directly with the normal nerve impulses to or from the bladder. On the other hand, postoperative retention may be due to some preoperative pathology which is known to cause urinary retention. Some of these conditions affect the spinal cord while others are in the urinary tract itself. Pathological conditions affecting the spinal cord and causing the so-called "cord bladder" are arteriosclerosis, pernicious anemia and probably chronic secondary anemias, diabetes (1), spinal tumor, syringomyelia, etc. Local causes may be urethral strictures, polyps, prostatic hypertrophy, etc. A brief urological history before operation may reveal any of these conditions and they may then be taken care of. It would be unfortunate to find in a patient who had postoperative retention an impassable urethral stricture, whereas if it had been known preoperatively the urethra could have been dilated. Conditions mentioned above which affect the cord and may cause urinary retention should be investigated preoperatively with the idea of a possible residual urine existing. In cases of diabetes where the insulin dose is regulated postoperatively by quantitative urine determinations of voided specimens, it should always be kept in mind that a diabetic patient may have early or late cord changes with resultant urinary retention of varying degrees, and that the voided specimen may contain residual urine which would result in an incorrect picture of the quantity of sugar which had been excreted by the kidneys in the past hour or so. It would be wise in this type of patient either to be absolutely sure there is no residual urine in the bladder, or to rely on blood sugar estimates.

The bladder, under normal circumstances, is highly resistant to infection. What then causes postoperative cystitis? Overdistention is the principal cause. There is a breaking down of the vessels of the mucosa causing petechial hemorrhage, edema and congestion. In severe cases there may be actual bleeding from the bladder wall. The bladder muscles are overstretched and soon lose their tonus. This combination of pathological processes is the foundation of postoperative cystitis.

The citing of several experiments will show how easy it is for even the normal bladder to take on pathological characteristics. Creevy (2) has demonstrated the susceptibility of the normal bladder to become a bladder with residual urine by having normal men, ambulatory and free from infection, hold their urine as long as possible, and then catheterizing them after they finally were forced to urinate.

It was found that in each case the bladder contained residual urine. The amount varied from 70 to 365 cc., an average of 170cc. Tussig (3), in comparing the total amount of urine in a group of 30 patients catheterized over a given period of time with that of a group of 30 patients who voided spontaneously over an equal period of time, found that an average of 150 cc. more of urine was ob-

tained from the patients who were catheterized. He has demonstrated that there is practically always residual urine postoperatively, even when the patient voids spontaneously from the beginning.

As regards the normal bacteria of the urinary tract, Schulte (4) found that after cleaning the glans penis of a group of normal males with an antiseptic and collecting the second portion of voided urine, that the organisms most frequently found were in this order: Micrococcus, diptheroids, streptococcus faecalis, alpha streptococcus, gamma streptococcus, Staphlococcus, albus Escherichia coli, Aerobacter aerogenes, Pseudomonas. In group 2, he obtained the urine after a sterile catheterization and found the same organisms except that they were in reduced numbers. In group 3, he irrigated the anterior urethra with 1-8000 potassium permanganate first, then collected the second portion of urine and found that half of the cases had sterile urine, and the other half showed Micrococcus. The prostatic secretion showed alpha streptococcus. He assumed from these findings that the Micrococcus is a normal inhabitant of the anterior urethra, and that the alpha streptococcus is a normal inhabitant of the posterior urethra and prostatic secretion.

I have found at the Baltimore City Hospitals, for the year 1940, that of all urine cultures taken, the most prevalent organisms in order of their frequency were: B. coli, Staphylococcus albus, alpha streptococcus, B. subtilis, Staphylococcus aureaus, beta streptococcus, hemolytic Staphylococcus albus, B. dysenteriae dispar, hemolytic E. coli, B. pyocyaneus, Staphylococcus citreus, and a number of other organisms which occur infrequently. It should be noted that the organisms recorded by Schulte were found by careful research work and upon males only, whereas the organisms I have recorded were taken from the hospital laboratory reports of all types of patients.

The early diagnosis of postoperative urinary retention is important. The surgeon must even anticipate it and be ready to institute treatment, whether it be minor procedures or more drastic steps. The early diagnosis is not hard if the doctor is retention minded. He should not disregard it until he is informed by the nurse that the patient has not voided for some time. He should be one step ahead of the bladder, so to speak. Each time he visits the patient he should inquire specifically of the nurse in charge as to how much, and the time when the patient voided. He should then ask the patient the same question, and at the same time palpate and percuss the bladder. All this takes but a few moments and in the end may save many hours or days of extra hospitalization for the patient in case he should develop a cystitis. One must be sure to keep in mind that small frequent voidings may mean an overdistended bladder. Shortly after operation the patient is frequently given large quantities of water by mouth and by vein. This fluid may collect very readily in the bladder and in a few hours cause overdistention of the bladder and damage it. Leaving an order with the nurse to catheterize the patient every eight hours, or when necessary, is insufficient. The nurse may think that small frequent voidings are sufficient, whereas they actually may mean overdistention. The responsibility lies with the doctor in determining postoperative urinary retention.

The treatment of this difficulty must first consist of simple procedures of which there are many, such as allowing the patient to stand up alongside the bed to void, application of a hot water bottle to the lower abdomen, running water in the room, a warm enema, or as Perdue (5) recommends, spraying the perineum and genitalia of gynecological or obstetrical patients to relieve pain in this region. Next, one might try certain drugs such as Mecholyl, 100 mg. by mouth four to six times daily or 10 mg. hypodermically; liquid potassium acetate, 1:15 solution, 15 cc. by mouth every half hour for 8 doses; prostigmin in doses of 1 cc. hypodermically of either the 1:4000 or 1:2000 ampule every four hours for 4 doses postoperatively will often give good results. Pilocarpine in doses of 1/20 to 1/10 gr. hypodermically will usually cause quick emptying of the bladder. The dose may be repeated in forty-five minutes, but only once. Furmethide has been used at the Beth Israel Hospital in Boston (6) on patients with retention following abdomenoperineal operations. Their routine was to use a retention catheter for ten to fourteen days followed by intermitent catheterization when necessary. If a residual of 300 cc. or more persisted then furmethide in doses of 3-5 mg. subcutaneously, or 10 mg. two or three times a day was given. These drugs are not without their dangers, however, and should be used cautiously. The usual order during 1940 at the Baltimore City Hospitals for female patients who have had perineal or low pelvic operations was

to catheterize every eight hours until the residual urine on two successive occasions was 30 cc. or less, and to instill into the bladder one ounce of 1:10,000 silver nitrate once a day. For promoting postoperative voiding and minimizing the use of the catheter following gynecological and obstetrical procedures Woodruff and Te Linde (7) advocate the instillation of 0.5 per cent aqueous solution of mercurochrome into the bladder postoperatively.

Finally we come to that group of patients who do not void with any of the above named remedies. It is then that we must resort to catheterization. This problem must be given serious consideration by the doctor. However, when catheterization is called for, the doctor must not hesitate. It must be recalled again that a normal bladder is difficult to infect, that it is after the bladder has been overdistended that its resistance is broken down. The question arises as to when to repeat catheterization and when to insert a retention catheter. To answer that question, the individual problem must be considered. If it is found necessary to catheterize the patient more than twice, then one must give the retention catheter serious thought. But this must be a sliding rule. Stalker and Schulte (8) found that postoperative urinary retention was best treated by frequent intermittent catheterization whenever possible. If one has a reliable person to do the catheterizing, that is, one whom you will be sure will carry out absolutely sterile technique, then this is perhaps the best method. But, if you do not have a reliable person to do the catheterizing, and if there is more residual urine than you might expect, and the procedure will have to be carried out over a long period of time, then it is wise to use the retention catheter.

The retention catheter should be a small, soft rubber one, about a number 14 French. It should be connected to a Y tube with one end leading to a flask which is hung by the patient's bed and filled with boric acid, or some mild antiseptic solution, and the other branch leading to a jug under the bed for collection of the urine. The jug should have a strong antiseptic solution in it and the tube should not hang down far enough to touch the waste fluid. The entire apparatus should be sterile. The antiseptic solution in the flask above the patient can be run in twice a day without disconnecting the system and contaminating it. In this way, danger of infecting the bladder is negligible. The Munro drainage apparatus is very satisfactory, especially where the retention catheter is used over a long period of time, but it is a rather complex apparatus and not always available.

As a prophylactic against cystitis while the retention catheter is in place, sulfathiazole, grains 7.5, four times a day is advised.

As to the treatment of cystitis, should it develop, there are numerous drugs on the market, most of which any surgeon is already familiar with. Some of the more commonly used urinary antiseptics are: Mandelic acid, 12 gm. in twenty-four hours, given along with ammonium chloride to reduce the pH of the urine to 5.5 (this drug, however is contraindicated in the presence of renal pathology); methenamine, 2 to 3 gm. in twenty-four hours, with an equal amount of sodium acid phosphate; sulfathiazole is effectual against most organisms except the Streptococci.

I believe it is wise, while a retention catheter is in place, or if the patient is catheterized daily, to collect one specimen every twenty-four hours, to be examined miscroscopically for the number of bacteria and white blood cells. In this way any urine infection can be immediately detected and treated without waiting for a culture. However, a culture should also be done about every other day. This procedure will keep the attending doctor informed as to the value of the urinary antiseptic.

SUMMARY

It has been pointed out that postoperative urinary retention is probably more common and can do more damage than is generally considered. Failure to treat or mistreatment of urinary retention may cause not only a prolonged hospitalization but persistent urinary tract pathology. Surgeons doing even minor surgery should have at least a general working knowledge of the causes, pathology and treatment of postoperative urinary retention.

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TREATMENT OF NONSPECIFIC INFECTIONS OF THE VAGINAL TRACT

(PRELIMINARY CASE REPORTS)

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Probably the first to point out the value of topical application of sulfonamides for the prophylaxis and treatment of wounds was Baccaredda (1), who demonstrated that local applications of sulfanilamide were often more effective than other methods of antisepsis. Rapid control of secondary infections in chancroidal lesions by the topical application of sulfanilamide powder was reported by Fields and Weinstein (2). Keefer (3) stated that sulfanilamide is bacteriostatic in action and stimulates phagocytosis by altering the organism so that phagocytosis can take place. On the other hand, Lockwood and Lynch (4) have shown that sulfones act locally by interfering with the nutritional requirements of certain bacteria. The effect of this action is dependent upon the concentration of the drug and limited by the amount of free peptone available from tissue necrosis.

It has been shown that repeated local applications of sulfanilamide to wounds at each dressing period are necessary if both primary and secondary infections are to be prevented. For good therapeutic results, local therapy with sulfanilamide should be continued until healing is complete.

From all points of view, according to Long (5), sulfanilamide seems at present to be the drug of choice for topical application. Veal and Klepser (6) found that repeated applications of sulfonamide powders to infected ulcerations tended to retard healing. Even though infection may have remained controlled, the healing time was definitely prolonged. This problem was effectually solved by substituting a greaseless ointment base for the dry powder and by using only 10 per cent of the sulfanilamide with 2 per cent allantoin to encourage more lively granulation tissue.

We were stimulated to make the study reported here by the report of Parks (7). In a preliminary report he treated 68 cases of various types of vaginal disorders with an allantoin - sulfanilamide - lactose ointment.* This ointment contained allantoin 2 per cent, sulfanilamide 15 per cent, lactose 5 per cent, in a special greaseless base buffered to a pH of 4.5 with lactic acid. Roblee (8) demonstrated the bacteriostatic effect of sulfathiazole and sulfanilamide by local applications to the cervix and vagina without appreciable absorption. He concluded that combining the sulfonamides and buffered acid vaginal jellies gives the most effective therapy in cervicitis and vaginitis of all types.

This report does not show such a variety of cases as reported by Parks (7), nor as many, due to the time factor and less adequate facilities; nevertheless, we feel the reports given here do show encouraging results. We believe the use of this treatment will be of value to other physicians. Its outline as employed in our cases was as follows:

A pelvic examination was performed and a probable diagnosis made, then if possible a smear was taken and culture made for type of organism. The patient was put to bed, given a hot douche for cleansing purposes, followed immediately by instillation of the vaginal cream. The cream was applied morning and evening as close to the cervix as possible with an applicator which delivered approximately two drachms in amount.

This treatment was continued from three to seven days, with a prompt subsidence of inflammation. No patient was discharged until her temperature had been normal for at least forty-eight hours. Two days before dscharge of the patient, the vaginal cream was discontinued but the hot douches were continued the next morning and night. On the final day an examination was made to see if the vagina appeared normal, and a smear was taken. If the laboratory report was negative treatment was discontinued and the patient discharged. No undesirable reactions to the sulfanilamide vaginal cream were evident at any time. Due to its consistency no leakage of the cream occurred and tampons were not needed.

CASE REPORTS

Case 1. A 26-year-old white married multipara who complained of pain in the lower abdomen and dyspareunia. Temperature 101.4 F. Pelvic examination disclosed a profuse vaginal discharge, endocervicitis, vaginitis and vaginismus. A vaginal smear and hanging drop were negative for gonorrhea and trichomonas.

*Allantomide Vaginal Cream supplied by The National Drug Company, Philadelphia, Pa.

Diagnosis: Chronic salpingitis; endocervicitis; vaginitis.

Treatment: The patient was hospitalized and sulfathiazole given over a period of six days, the first dose consisting of 2 Gm., followed by 1 Gm. every four hours. The vaginal cream was used for five days along with the sulfathiazole therapy.

On the sixth day of treatment the endocervicitis had cleared up, the vaginal discharge was greatly diminished, the patient was comfortable, and was discharged from the hospital.

Case 2. A 34-year-old white married multipara who complained of aches and pains following a cold, together with profuse vaginal discharge. Temperature 99.4 F. Pelvic examination revealed endocervicitis and a profuse vaginal discharge. A vaginal smear and hanging drop were negative for gonorrhea and trichomonas. The urinalysis was negative.

Diagnosis: Influenza; endocervicitis.

Treatment: The patient was given aspirin, codeine and sedation for the influenza. The vaginal cream was used in the treatment of the endocervicitis for four days, at the end of which time the endocervicitis had cleared up and the vaginal discharge was not noticeable.

Case 3. A 27-year-old white married multipara who complained of a cold, malaise, dyspareunia. Temperature 103 F. Pelvic examination showed deep bilateral lacerations of the cervix, a profuse vaginal discharge and vaginismus. Vaginal smear and hanging drop were negative for gonorhea and trichomonas. Urinalysis was negative.

Diagnosis: Coryza; malnutrition; secondary anemia; deep bilateral cervical lacerations with endocervicitis; vaginismus.

Treatment: The patient was hospitalized and given aspirin, vitamins, iron and sedatives. She was also treated for seven days with the vaginal cream. At the end of the seventh day she was much improved, the vaginal discharge being much reduced and the vaginismus absent. She was discharged from the hospital.

Case 4. A 32-year-old white married multipara, complaining of profuse, foul-smelling vaginal discharge (she stated she changed pads two or three times daily). Temperature 98.6 F. Pelvic examination showed the patient to be four months pregnant. The cervix was eroded and there was a profuse foul-smelling vaginal discharge. The laboratory report showed vaginal smear and hanging drop to be negative for gonorrhea and trichomonas vaginalis. Urinalysis was negative.

Diagnosis: Pregnancy; cervical erosion.

Treatment: She was treated at home for seven days with the vaginal cream. Silver nitrate (10 per cent) was used at the time of examination to cauterize the cervical erosion. On examination eight days later, the discharge was found to be greatly diminished, patient using only one pad daily. The cervical erosion was greatly reduced in size. The erosion was retouched with 10 per cent silver nitrate. The patient was told to continue the use of the cream and to return in ten days, but she did not return.

Case 5. A 25-year-old white married multipara who complained of nervousness and lower abdominal pain. Patient stated it hurt her to sit down. Temperature 98.4 F. Pelvic examination showed cervicitis, deep cervical laceration, left uterine retroflexion, and profuse purulent vaginal discharge. Vaginal smear and hanging drop were negative for gonorrhea and trichomonas vaginalis. The urine was normal.

Diagnosis: Chronic cervicitis; cervical laceration; mild pancreatitis; simple goiter; mild hypothyroidism; cardiac damage.

Treatment: The patient was hospitalized and treated with the vaginal cream for five days, plus sedatives. She remained in the hospital for fifteen days at the end of which time the infection was markedly reduced, there was no vaginal discharge, and she was able to walk and sit down without discomfort. Surgical repair of the cervical laceration was done on the sixth hospital day, the patient being referred to the surgical department for this purpose.

Case 6. A 15-year-old white single nullipara, gravida one, complaining of burns of back, hands, right arm, and thigh. Temperature 100 F. Pelvic examination showed her to be four months pregnant, with a moderate vaginal discharge. Laboratory report for smear and hanging drop was negative for gonorrhea and positive for trichomonas vaginalis. Urinalysis was negative.

Diagnosis: 1st and 2nd degree burns of back, hands, right arm, and thigh; pregnancy; trichomonas vaginalis.

Treatment: Patient was hospitalized for twenty-seven days. Allantomide ointment, sulfathiazole crystals, and sedation were used for the burns. The

vaginal cream was used for four days for treatment of trichomonas and vaginal discharge.

Vaginal smear and hanging drop were negative on the sixth and twenty-sixth hospital day for trichomonas vaginalis.

Case 7. A 49-year-old white married multipara with a chief complaint of dyspareunia. Temperature 98.6 F. On pelvic examination the patient was very tender and relaxed with difficulty. It was found that she had a severe vaginitis with a moderate amount of mucopurulent discharge.

Diagnosis: Arthritis; vaginitis; vaginismus.

Patient refused hospitalization. However, two weeks later she returned to the hospital feeling much worse and so tender that a pelvic examination could not be done.

Treatment: She was admitted to the hospital and treated seven days with the vaginal cream and aspirin. On the eighth hospital day she was very comfortable, no discharge was present and she left the hospital voluntarily.

Case 8. A 51-year-old white married multipara, complaining of lower abdominal pain and burning on urination. Temperature 98.6 F. Cystoscopic examination by Dr. Ritter showed cystitis, urethral caruncle, papillome of bladder. Pelvic examination revealed a vaginal ulcer. Vaginal smear and hanging drop were not done.

Diagnosis: Cystitis; urethral caruncle; papillome of bladder; vaginal ulcer.

Treatment: Patient was hospitalized for fifteen days; she was treated with the vaginal cream for four days. She was given sulfathiazole Gm. 1, three times a day. At the time of her discharge from the hospital she was much improved and the vaginal ulcer had healed.

SUMMARY

The use of a vaginal cream with lactose base and pH of 4.5 combining sulfanilamide (15 per cent) and allantoin (2 per cent) was used on various types of vaginal infections. In view of the excellent results obtained in this limited series of cases it would be appreciated if interested physicians would confirm our findings.

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"DONT'S" IN HYPERTENSION

The first step in treating a patient with uncomplicated essential hypertension consists in imparting to him the knowledge of its existence. It is difficult to exaggerate the importance of this initial move. In fact, I do not hesitate to say that when this step is properly planned the rest of the program could almost be omitted, but if it be poorly done, no amount of good advice can compensate.

The current naive apprehension concerning high blood pressure, based on the belief that an immediate stroke will result from the blowing-out of an artery, tempts one not to divulge the existence of hypertension. There are two reasons for avoiding this easier path: First, to avert the possibility that someone else may take the blood pressure and create alarm; and second, to obtain the leverage that this knowledge affords in influencing the patient to carry out the therapeutic program. It is necessary at this point to interject a few don'ts. Do not express anxiety. Do not reveal the exact blood pressure reading.

Every effort should be exerted to introduce a casual tone, and the average prognosis justifies it. It is reassuring to speak of a blood pressure "tendency," disabusing the patient at once of any alarming ideas that he has picked up from friends or physicians. It is comforting, and correct, to indicate that no alteration of life is necessary other than that which is wise for anyone of his own age, provided he be over 45 years old. The elevated blood pressure simply makes sensible behavior mandatory. Patients under 45 may follow the pattern of their more phlegmatic and slow-moving friends. No complicated hypertensive should be given therapeutic limitations which would make his habits of life obviously unnatural.—Dana W. Atchley, M. D., in *New York State Journal of Medicine*.

STATE LEGISLATION FOR VENEREAL DISEASES

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The first law requiring a premarital examination of both partners for syphilis was passed in Connecticut in 1935, and the first laws requiring prenatal blood tests were passed in 1938 by the states of New Jersey, New York and Rhode Island.

Similar legislation in other states following in rapid order, so that as of January 1, 1944, there were thirty states having laws requiring premarital examination for syphilis and thirty requiring prenatal examinations for this disease. Twelve of these states require an examination for other venereal diseases, and in two the examination covers various other diseases.

The laws covering the scope of both premarital and prenatal examinations vary greatly, so that an extensive discussion of the legislation of all of the cooperating states would be too lengthy. However, a brief review of legislation enacted by West Virginia and her neighboring states of Maryland, Kentucky, Virginia, Tennessee, Pennsylvania and Ohio should be of interest.

PREMARITAL LAWS

Maryland has no legislation requiring either premarital or prenatal examination for syhphilis. West Virginia, Kentucky, Pennsylvania, Tennessee, Ohio and Virginia require a serologic laboratory test and a physical examination for syphilis. Kentucky and Tennessee specify that a darkfield illumination be done when indicated. Kentucky and Tennessee are the only states of the group that require an examination for gonorrhea and other venereal diseases, Tennessee requiring that a microscopic test be done at the physcian's discretion.

Certificates in Kentucky are valid for fifteen days, the other states of the group allowing a validity of thirty days.

Most of the states mentioned vary as to their acceptance of serologic laboratory reports on out-of-state forms. West Virginia and Pennsylvania flatly refuse to accept them. The Ohio law provides that "applicants who were former residents of a state with a premarital law similar to Ohio may, however, present a certificate from an out-of-state official who issues marriage licenses, certifying that the applicant had complied with the premarital law of that state."

Tennessee and Kentucky will accept out-of-state serologic reports provided that all the information requested on their own forms is shown on the report presented. Virginia specifies that the result of the laboratory test be on the out-of-state form.

All of the states under discussion, with the exception of Ohio, will accept serologic reports from other state health department laboratories. West Virginia and Tennessee will accept serologic reports from the District of Columbia Health Department, and Pennsylvania and Virginia accept reports from both the District of Columbia and New York City Health Department laboratories.

All of the states except Virginia issue marriage licenses only when the disease is not in a communicable stage. Virginia does not prohibit marriage in such cases, but the other applicant must be notified, and both partners must take treatment as recommended by the public health department. The laws of Pennsylvania, Tennessee and Ohio grant the right of appeal. Prerequisites are never waived in Ohio, but they may be waived by court order in West Virginia, Pennsylvania and Tennessee.

Medical certificates on out-of-state forms are accepted only by Tennessee, and then only when such forms are similar to her own. Both Tennessee and Virginia will accept medical certificates signed by out-of-state licensed physicians while Ohio, West Virginia and Pennsylvania will not. However, West Virginia is the only state of the entire group which does not accept the signatures of commissioned USPHS Army and Navy medical officers.

All of the states furnish free serologic laboratory tests upon request of the physician, and they have uniformly specified penalties for violation of the act. Kentucky, Ohio and Virginia file the results with the state department of health. West Virginia, Pennsylvania and Tennessee do not.

PRENATAL EXAMINATIONS

Kentucky and Pennsylvania are the only states in our group which have passed legislation requiring prenatal examination for syphilis. The scope of their legislation is similar. In Kentucky the serologic test is mandatory and must be taken at the first visit to a physician. Pennsylvania is more liberal, allowing ten days after the first visit, and her law provides that the serologic test be done if there is no objection from the woman. Both states offer free serologic tests, and both insist that they

be done in a laboratory approved by the state department of health. Kentucky files her results with the state health department. Pennsylvania does not.

The requirement for the birth certificates of each state is that the date of the test be noted. If the test was not done the reason for such non-compliance must be stated. Both states specify severe penalties for failure to comply with the law.*

COMMENT

The rapid progress made in the enactment of premarital and prenatal laws for examination for syphilis must have done much toward preventing the spread of venereal disease. In comparing the laws of West Virginia with those of Kentucky, it is obvious that we should make every effort to include prenatal examinations within the scope of our venereal disease control legislation. It is important that West Virginia continue as one of the leaders in such legislation.

*Summary of State Legislation Requiring Premarital and Prenatal Examinations for Venereal Disease. Aneta E. Bowden and George Gould.

INCREASING LONGEVITY FOR DIABETES

Two factors have contributed to the increased prevalence of diabetes. First, the population as a whole is steadily aging and diabetes predominantly has its onset in middle life. Second, improved medical practice has resulted in the more frequent diagnosis of the disease. Mortality data clearly reflects the growth of the diabetic population. For the registration area of the United States diabetes has advanced in importance as a cause of death from 27th place in 1900 to 9th place in 1940, and by 1960 it will probably surpass tuberculosis and premature births to assume 7th rank.

Statistical trends indicate not only an expanding number of dibaetics in the future but also an increasing longevity for each patient. Joslin reports for his patienst that the average duration of the disease at death was 4.9 years during the Allen era (1914-1922), 12.1 years at the close of the Banting era (1922-1936), and 12.5 years in 1940 during the current Hagedorn era (1936 to date). Joslin estimates an average life span of 20 years for the individual who develops diabetes in 1944. The juvenile diabetic has a much greater life expectany; hundreds already have survived two decades and may anticipate attaining at least 70 per cent of their normal life expectancy.—Leon S. Smelo, M. D., in *J. M. A., Alabama.*

RETROSPECTIVE INFANT FEEDING

Without doubt, the most forward step in providing babies with adequate nourishment is the early introduction of vegetables, cereals, meat juices, fruit juices and other articles of food that, 10 years ago, were rarely given until after the first year. Likewise, the rapid strides which have been made in the past 15 years in developing vitamin concentrates make it easy to supply the daily requiremnets of these necessary accessory food elements at the most crucial period of growth and development. This is a great advantage over the large and nauseating doses of foul-smelling cod liver oil upon which early infant feeders had to rely to supply vitamins A and D.

Vegetables are available in inexpensive and convenient containers, cereals are precooked and fortified with minerals and vitamins—indeed, infant diet materials, accessories and gadgets are available everywhere in civilized countries, and the artificial feeding of a baby is no longer the problem it was when Pediatrics was seeking recognition as a special branch of medicine. If the pioneers had done nothing more than initiate the study of the means by which babies may be fed safely and safeguarded from the devastating diarrheas of the summer months ,they would have justified recognition. While doing this, they also developed procedures which have caused rickets and scurvy to be so rare that they are shown to medical students today chiefly on projected slides.—*International Medical Digest.*

DISTURBED RENAL FUNCTION

The study of disturbed kidney function has reached a high degree of efficiency. Urologists were among the first to try to measure disturbed function by the use of dyes long before the same principles were used in other fields of medicine. The study of disturbed renal function went through definite stages of progression, beginning with the use of turpentine, iodide of potash, methylene blue, phloridzin, indigo carmine, and the determination of the freezing point of urine by Koranyi.

As an outgrowth of the phenolsulfonthalein test of renal function came the early studies of liver function.—Herman L. Kretschmer, M. D., in *Southern Medical Journal.*

The President's Page

Late in 1944, a ruling was issued by the ODT to the effect that no convention at which more than fifty persons would be in attendance could be held in 1945 without the permission of that government agency. The West Virginia State Medical Association filed a petition for permission to hold its meeting in Clarksburg next May. I regret to say that this request has been refused. Therefore, the Clarksburg meeting has been cancelled.

An excellent program had been arranged which entailed much thought and hard work on the part of the Scientific Work Committee, and the committee on arrangements of the Harrison County Medical Society had done much looking to the comfort and social entertainment of their guests. On behalf of the membership of the State Association, I want to express deepest appreciation for these endeavors.

Congratulations to Drs. R. O. Rogers, Chairman of the Legislative Committee, and Ray Bobbitt, Chairman of the Fact Finding and Planning Committee, and their respective membership. They planned the most progressive legislation in the history of the West Virginia State Medical Association. The bills have been enacted into law. Therefore, by virtue of the power invested in me as President of the West Virginia State Medical Association, I hereby confer upon them the verbal Distinguished Service Medal for services rendered to the State Medical Association far beyond the call of duty.

The legislature has passed the H. B. 50 and H. B. 51 pertaining to appointment of the state health commissioner, members of the public health council, and medical heads of state institutions. The concurrent resolution providing for the appointment of an interim committee to study health problems in this state has likewise been adopted by both senate and house. This means that a thorough and comprehensive study of our health problems will be made, and that the findings, with recommendations, will be reported to the Governor and legislative bodies early in 1947. Truly, a wonderful and progressive step for better medical care in our sovereign state.

To the many physicians throughout the state who have contacted their representatives and assisted in the enactment of this legislation, I wish to extend my appreciation and sincere thanks. It will mean much to the medical fraternity throughout West Virginia.

Thomas C. Harris

President.

West Virginia Medical Journal

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COUNCIL OBJECTIVES

Recently we were asked in the meeting of a county society to present in The Journal the aims and objectives of the Council on Medical Service and Public Relations of the American Medical Association. We do not feel that we can do better than to quote a statement prepared by Dr Louis H. Bauer, a member of the Council, and also a member of the Board of Trustees of the American Medical Association. This statement, which was approved and released at the Council meeting held in Washington, D. C., December 4, 5 and 6, 1944, is as follows:

> For the past year and a half the Council has been sudying various suggested modifications of the distribution of medical care. This study has covered voluntary nonprofit, industrial, commercial and hospitalization plans for reducing the costs of medical care. It has held conferences with various groups and agencies concerned with, or interested in, the distribution of medical care. Further conferences are being held at this meeting with members of Congress, representatives of the National Planning Association and with representatives of Labor.
>
> The Council last June recommended to the House of Delegates of the American Medical Association, a revised platform, which was adopted. This platform is the basis of a more widespread distribution of medical care in a manner that will solve the financial problems of illness which confront many people.

Economically, there are four groups of people in the United States, (1) those who are financially well enough off to meet any situations which they may face; (2) those who can meet the ordinary costs of living and ordinary medical expenses, but who find it difficult to meet the costs of long and expensive illnesses; (3) those who can meet the costs of the bare necessities of life, but who cannot meet the costs of any sickness; and, (4) the class which is dependent upon public aid for housing, clothing and nutrition, as well as medical care.

The first group is now satisfactorily cared for and no change in the distribution of their medical care is needed. The fourth group is also well-cared for in most areas. Those areas not providing such care should do so as outlined later. Groups two and three need help, and means for meeting that need are herein outlined.

Before outlining the methods advisable, however, it will be well to point out that the high costs of medical care are in hospitalization, nursing care and in diagnosis. The actual cost of the physician's services is not the important factor in most cases.

It must also be borne in mind that there are areas in the United States where diagnostic facilities are inadequate and where preventive medical facilities are inadequate or lacking.

Remembering that the platform of the American Medical Association is availability of medical care of a high quality to every person in the United States, how best can this platform be made a reality and the shortcomings of medical care remedied?

The medical profession has accepted the principle of insurance as one which will be of great assistance, but it continues to feel that this insurance must be on a voluntary basis in order to avoid political interference and to prevent the rendering of a mere quantity of medical care rather than quantity with high quality. It is not enough that medical care be available. It must be medical care of a high quality.

In the development of any new type of insurance it takes time to make it successful and acceptable. Various voluntary nonprofit medical indemnity and service plans have been developed and modified and are being increasingly well distributed over the country. Growth has been slow, but during the past

year growth has been more rapid, and ideas as to the best type of plan are gradually crystallizing. There have been industrial plans existing in some cases for as long as 20 years, but there are many which have developed during the past few years. Commercial insurance is becoming increasingly available. Group hospital insurance has grown rapidly. There are now over 16,000,000 people covered by group hospital insurance; there are about 25,000,000 covered, to at least some degree, by voluntary nonprofit medical, industrial and commercial plans. These plans must be made available to everyone desiring coverage at a cost within his means to pay.

The Council on Medical Service and Public Relations has been authorized to appoint a Director of Insurance to correlate and coordinate existing plans and assist in developing new ones so that the whole country may be covered by available insurance plans. The Council feels that such plans, including group hospital insurance, can be made effective at a far less cost and with more satisfactory service than any compulsory government-controlled plans.

States, counties and towns are urged to consider the purchase of these voluntary insurance policies for the indigent and the near indigent.

The American Medical Association also in its platform has stated that there are too many counties or districts without adequate health supervision and has urged that every area be properly covered. Extension of medical care for the indigent and medically indigent in those areas not now giving proper care is necessary. Federal funds may be used for extending public health facilities and medical care of the indigent if the local community is unable to do so, but the administration of the problem should be decentralized and local rather than federal.

There is now available information on the needs of communities as to hospitals, diagnostic facilities and practising physicians. The Council proposes to enlist the aid of state medical societies in relieving any shortages in the variout communities, and to make certain that present facilities are used to the utmost.

Finally, for 70 years the American Medical Association has stood for a Federal Department of Health, under which shall be gathered all federal departments and bureaus dealing with the various problems of health except the Army and Navy, with a Secretary in the cabinet as the head of the department, such Secretary to be a qualified physician.

To summarize, therefore, our plan is:

1. Continued expansion of the practice of medicine with full development of approved voluntary hospital, medical, indemnity, industrial and commercial insurance against the costs of medical care.
2. Development of public health facilities for preventive medicine all over the country.
3. Development of adequate diagnostic facilities everywhere.
4. The use of the voluntary insurance principle in caring for the indigent and medically indigent.
5. The development of hospital facilities where present facilities are used to the utmost and are still inadequate.
6. The use of federal funds to aid communities in public health measures, care of the indigent and construction of necessary hospitals, when local communities are unable to finance the projects, but with retention of local administration.
7. The creation of a unified Federal Department of Health, as above outlined.

The Council is familiar with the various surveys which have been made and it also realizes that other surveys will shortly be coming out, some of them made purely to blind the eyes of the public and to be used as propaganda for government-controlled medicine.

The Council believes that the facts are that the public is demanding a method of prepaying its medical bills, particularly in the case of so-called catastrophic illness, and that it wants that method on a voluntary basis. It further desires that medical care to be of a high quality and readily available.

The American Medical Association, which represents the *practicing* physicians of the United States, will do its best to see that the public gets it.

TOWARD A HEALTHIER AMERICA

Brooks Cottle, editor of the *Morgantown Post*, thinks that Interim Report No. 3 on "Wartime Health and Education," printed by a subcommittee of the Senate Committee on Education and Library, should be read by every thoughtful American.

The report deals at length with the selective service rejection rate during World War II. According to the *Post*, many expert witnesses testified before the subcommittee that a great deal of this toll of illness and disability "could be avoided if the benefits of modern medical and public health science were made readily available in all sections

of the country and to all persons regardless of economic status."

We quite agree with this line of reasoning. One of the main topics for study by our interim committee which is being set up by the legislature at Governor Meadows' suggestion is the proper method by which adequate medical and hospital care can be provided for all of our people. It is a tremendous problem, but we have full faith in the ability of the members of this committee to point the way.

The subcommittee does not reach the conclusion that the way to make benefits of modern medical science readily available is through socialized medicine. However, the committee does express the conviction that the "pay-as-you-go" system is not well suited to the needs of most people or to the widest possible distribution of high-quality medical care. Continuing the discussion, the *Post* says:

"If we understand correctly the program toward which the American Medical Association is working and the program to which the West Virginia State Medical Association has in principle committed itself, the medical profession will not find much complaint with this report. Indeed, many leaders of the medical profession have warmly expressed their support for some such program and have voiced the hope that it might soon be inaugurated.

"Unfortunately for everybody concerned and unfortunately for those who are thoroughly and sincerely convinced that any introduction of socialized medicine will worsen rather than improve conditions, this problem comes to the fore at a time when the medical profession of the country is not in a position to take the lead in searching for a solution. The doctors of the country (and, after all, the doctors ARE the medical profession) are kept busy around the clock taking care of their patients. With a large percentage of their number serving in the armed forces, those remaining at home more than have their hands full in treating the civilian population. They cannot take time out to discuss, debate, formulate and propose. They cannot wrestle with all the details of working out a new method of providing medical care, and bring that method to practical fruition.

"Under these circumstances, the greatest danger confronting the country is not that nothing will be immediately done, but is rather that the eager, impatient, and evangelical exponents of socialized medicine will gain the upper hand and will fasten upon the country, possibly even in the guise of a temporary experiment, a far-reaching plan of State-controlled medical practice and compulsory health insurance which may set back incalculably the American medical profession, by all odds the finest in the world, and delay for years the introduction of a sound and workable solution of this national problem."

UNFINISHED BUSINESS

West Virginia ranks high among other states in many matters of national interest and concern. We have led the nation in per capita sales of war loans and have been runner-up once or twice. We can well be proud of the part we have played in the whole field of public welfare. We have a sound financial structure and there is a heavy demand for each issue of our road bonds.

According to statistics compiled by W. P. Kellam, librarian at West Virginia University, Morgantown, West Virginia, we cannot take any pride in our standing among other states so far as libraries are concerned.

The following paragraphs selected from Mr. Kellam's report will be of interest to all West Virginians:

"In a comparison of the number of volumes in the public libraries in the United tates, West Virginia occupies 46th place, with .22 of one book per capita. The national median is .92 and the citizens of the state with the most books have almost four books on their shelves.

"Each American reads about three books each year from public libraries; Californians, the greatest readers in the country, read an average of almost seven books each; West Virgianians read slightly more than one-half book annually. In this comparison, West Virginia, with an average of .65 of a book, stands 47th. Only Mississippi ranks lower. How can the people of our State hope to be as well informed as the citizens of those states in which the reading average is much higher?

"Probably not more than 25 per cent of the people in West Virginia have access even to fair library service. There are sixteen counties having a population of 330,394 in which there are no public libraries; twenty-five counties have small undernourished libraries re-

ceiving very meager support from some local organization; and there are nineteen counties having libraries receiving some public support. Out of those having public support, only two receive appropriations large enough to give fairly adequate county service and only two or three more attempt county-wide service at all. No library in West Virginia receives half the support recommended by the American Library Association as the minimum necessary for the provision of good service.

"In the matter of expenditures per capita for public library service, West Virginia, spending seven cents per person, is tied with Alabama for third place from the bottom. Only Mississippi and Arkansas spend less. A study of per capita income and wealth proves that West Virginia is able to spend more than some other states which are now offering their citizens much better library service than are we.

"In 1929, following in the footsteps of forty-three other states, the West Virginia Legislature established a Library Commission to promote the organization and development of public libraries in the State. The Commission was unable to function until March 16, 1942. Since that time it has made progress but has been handicapped by inadequate staff and lack of funds."

Mr. Kellam reaches the conclusion that unless more organizations and groups which are in a position to create an informed public opinion regarding the library needs of this state take action to encourage the Library Commission in the establishment of a state-wide library service, the present trends of indifference and apathy will continue, and this state will remain near the bottom of the list in comparison with other states. It is certainly to be hoped that this unfinished business will be given the attention it merits, and that some organized effort will be made immediately to remedy a situation which should not exist in a progressive state like West Virginia.

RED CROSS WAR FUND

Keep your Red Cross at his side. Never was this more important than today. Long after swords have been beaten into plowshares and spears into pruning hooks, the Red Cross will have much to do. Even after the last gun has been fired many a month will pass before all our fighting men are home. Some will be confined in hospitals for long periods of recovery. Traditional Red Cross service for these men who have sacrificed so much must continue unabated. It is a sacred obligation delegated to your Red Cross.

No less sacred is the obligation to stand by with all necessary aid while veterans of this war, now being returned to civil life, adjust themselves to new conditions, prepare to take their rightful places in field and factory. The welfare of the families of our men in uniform, their wives and children, and their aged parents, must be guarded to see they do not suffer want in these trying times.

Though the roar of guns may cease, human needs remain. The Red Cross can meet these only with your continued generous support. The President has designated March as Red Cross month, the period in which the 1945 Red Cross War Fund will be raised. Red Cross activities are financed solely from voluntary contributions and gifts. We must all do our part.

WORDS THAT KILL

There are some words that really kill patients; they dwell on them and shorten their lives by worry. Cancer is the most dreaded word in the language; tumor is far gentler. Arthritis, a ruthless word, cripples as many aged as does the disease itself. Apoplexy and stroke are also terrifying words. Bright's disease is another panic-producing word; nephritis is less frightening. High blood pressure is a term to be avoided if possible. One might better substitute, "The blood pressure is somewhat above normal."

Elderly persons are particularly susceptible to suggestions created by badly chosen words. One of my colleagues ,aged 68, an active physician, went to bed for a week when a patient he had ben treating for years discharged him, saying that he wanted a younger physician who was more on this elderly physician that he was really ill for several days.

Telling old persons that they are suffering from up-to-date. These words made such an impression "old age' 'is a safe way of committing homicide. Unconsciously I disheartened a family by telling a daughter that her mother was suffering from premature old age and that the condition was beyond repair. I forgot the possibility that relatives listen and tell.—*Malford W. Thewlis, M. D.,* in *North Carolina Medical Journal.*

General News

BILLS SPONSORED BY STATE MEDICAL ASSOCIATION PASSED BY LEGISLATURE

The two bills sponsored by the State Medical Association relating to the appointment of the state health commissioner, members of the public health council and medical heads of state hospitals and sanitariums, have been passed by the legislature and sent to the Governor for his signature. As originally prepared and introduced, H. B. 50 and 51 provided that the appointment of the medical heads of state eleemosynary institutions should be approved by the public health council and that the state health commissioner and medical members of the public health council should be appointed with the approval of the Council of the State Medical Association.

To overcome objections on constitutional grounds, it was found necessary to change the original wording in the two bills. It was contended that the right of approval or disapproval of an appointment of any official by the Governor cannot be delegated to any lay or professional group. The veto power lies solely in the Senate. Amendments were agreed to providing that before the Governor appoints medical heads of any state institutions, he shall request the public health council to submit a full and complete report concerning the qualifications and suitability of the appointee for the office, and the law makes it mandatory upon the public health council to submit such report. A similar provision is included in the bill relating to the appointment of the state health commissioner and medcial members of the public health council. The Governor is to request the Council of the State Medical Association to submit a report concerning the qualifications and suitability of such proposed appointee or appointees.

H. B. 51 provides an increase in the salary of the state health commissioner from $5,000 to $6,000.

After a public hearing on the bill providing for the transfer of the crippled childrens' division of the DPA to the state health department, the House committee on medicine and sanitation laid the bill on the table, and there is no likelihood that any effort will be made to revive it at this session of the legislature. It is thought that the matter of this transfer will be given consideration by the interim committee set up under the provisions of H. C. R. 4.

The committee also declined to take action on the bill providing for the creation of a division of crippled children and a division of dental hygiene in the state health department. As this issue of the Journal goes to press (Feb. 23), an effort is being made to obtain favorable committee action in the Senate on a bill creating only a new division of dental hygiene.

Another item on the legislative program of the State Medical Association has received favorable consideration. This concerns the reestablishment of the Barboursville Unit of Weston State Hospital under the name of Barboursville Unit of Huntington State Hospital.

COMMITTEE ON PSYCHIATRIC EDUCATION

A committee has been named by Dr. Thomas L. Harris, president of the State Medical Association, to work out the necessary details in connection with a plan to provide psychiatric education for the members. This step follows the receipt of over 500 favorable replies to a questionnaire mailed in the fall of 1944 to ascertain if the members would be interested in a program of this character, designed to furnish further knowledge on the subject through the medium of county or area meetings and articles printed in the West Virginia Medical Journal.

The committee is composed of Dr. O. B. Biern, of Huntington, chairman; and Drs. James L. Wade, Parkersburg; E. J. Van Liere, Morgantown; A. A. Wilson, Charleston; E. F. Reaser, Huntington, and Capt. John P. Lambert (MC), **ex officio.** Captain Lambert is assigned to the induction center at Huntington as senior neuro-psychiatrist. Before entering the military service, he was on the teaching staff at Columbia College of Physicians and Surgeons, New York.

Appointment of the committee was authorized at the meeting of the Council held at Huntington, January 18, at which time Dr. R. J. Wilkinson discussed the results obtained from the mailing of the questionnaire, stressing the importance of the subject on account of the return of such a large number of psychiatric cases from the armed forces.

GERIATRICS SOCIETY CANCELS MEETING

The 1945 annual meeting of the American Geriatrics Society which was to have been held in New York City, June 14-16, has been called off because of the request of the ODT for a cancellation of national meetings. The present officers will continue until the next annual meeting. Dr. Wingate Johnson, of Winston-Salem, North Carolina, is president of the society, and Dr. Malford W. Thewlis, of Wakefield, Rhode Island, is secretray.

RED CROSS CONFERENCE

A joint conference of representatives of state departments, bureaus and agencies to discuss the responsibilities which each should assume in case of a disaster has been arranged by the American Red Cross, and will be held at the Daniel Boone Hotel at Charleston, March 7. The opening session is scheduled for 10:00 A.M. The meeting, which will be under the direction of Mrs. Grace F. Wylie, of Alexandria, Virginia, state liaison officer of the American Red Cross, Eastern Area, will be attended by Mr. Otto S. Lund, regional director, and Joseph L. Carter, director of disaster service in this area.

INTERIM COMMITTEE WILL MAKE STUDY OF HEALTH PROBLEMS IN WEST VIRGINIA

A thorough study of all matters affecting public health, medical and hospital care, medical care at state hospitals and sanitariums, medical-surgical-hospital service plans, and medical education is assured under the provisions of a concurrent resolution (H. C. R. 4) adopted unanimously by both branches of the West Virginia legislature. The resolution, sponsored by Governor Clarence W. Meadows, and backed solidly by the council of the State Medical Association, provides for a two-year study by an interim committee and the submission of a report, with recommendations, by January 10, 1947.

The interim committee itself will be composed of five members of the Senate and five members of the House of Delegates, the speaker and president serving as **ex officio** chairman and co-chairman, respectively. The Governor will appoint an advisory committee to serve with the interim committee, and it is provided that five of the members shall be duly licensed doctors of medicine practicing in West Virginia. A chairman and vice chairman are to be elected by the members of the committee.

The adoption of the resolution places West Virginia out in front with a few other states in which a similar study is being made at the present time. The provisions of the resolution are far-reaching, and its adoption without a dissenting vote is an indication of the widespread interest of our people in the matter of public health problems. It constitutes a milestone in the efforts of the State Medical Association's fact-finding and planning committee and legislative committee to find a solution through an approach that will open the doors to the views of representatives from all groups interested in or affected by legislation of this character.

There is no indication just when the personnel of the committee will be selected, but it is hardly likely that action will be taken until just before or immediately after the close of the present session of the legislature.

ANNUAL MEETING CANCELED

The 78th annual meeting of the West Virginia State Medical Association, scheduled for Clarksburg, May 14-15, was officially canceled February 12, by Dr. Thomas L. Harris, president, and Dr. Robert J. Reed, Jr., chairman of the council. Decision to cancel the meeting was reached following rejection by the Office of Defense Transportation of an application for permission to hold the convention as scheduled. It seems that meetings of this character are not held to be essential if the attendance is expected to exceed fifty persons.

The cancelation marks a precedent in the history of the State Medical Association, as this will be the first year that an annual meeting has not been held since its organization in 1867.

In authorizing the cancellation, the Council held out hope that it might be possible to arrange a one-day session of the association's house of delegates sometime during the summer.

GOVERNOR SPEEDS STATE CAMPAIGN TO PROVIDE NEEDED HOSPITAL PERSONNEL

Recent figures released by Major General Norman T. Kirk, surgeon general of the Army, show that the casualty list is steadily mounting to a point where Army doctors and nurses are being overburdened with their work.

In the two-and-a-half years from Pearl Harbor up to the invasion of France, the total American battle casualties were 224,693. From D-Day until January 1, 1945, casualties in the ground forces alone of the United States Army totaled 332,912. The over-all Amercian battle casualties through January 7, 1945, soared to 662,339. The wounded are being returned from overseas to the 60 Army general hospitals in this country at the rate of better than 50,000 a month.

General George C. Marshall, chief of staff, has appealed to the governors of the 48 states, outlining the critical need for hospital personnel. He has asked all state chief executives to form WAC hospital units for the purpose of enlisting women to serve with the medical department of the Army.

Governor Clarence W. Meadows immediately issued a proclamation asking available West Virginia women to answer the call. In order to stimulate further activity in the current drive, he has appointed Mrs. V. Eugene Holcombe, of Charleston, as his personal state civilian representative. Mrs. Holcombe is past president of the Woman's Auxiliary to the West Virginia State Medical Association, and also past national president of the Woman's Auxiliary of the American Medical Association.

A quota of four platoons comprising a total of 260 women is the goal for West Virginia. As each platoon is formed, it will be sent to Ft. Oglethorpe, Georgia, for a training period of four weeks. Following this course and eight weeks of study at Army medical department technician schools, the platoon will then be ready for assignment to a hospital.

West Virginia applicants have the choice of serving either at Newton D. Baker General Hospital, Martinsburg, or at Ashford General Hospital, White Sulphur Springs.

Hosptial work rounds out the training program that the Army has mapped out for the applicants. The WACS will be given one month of "applicatory training," participating in an intensive "on the job" training schedule. Upon satisfactory completion of the various training courses, they will be promoted to Technician 5th Grade. With this accelerated system in effect, it will be possible to have the WACS actually at work in the hospitals within 11 weeks from the day they report at the training center.

NEW ACP MEMBERS

The American College of Physicians has announced that Dr. Carl Edward Johnson, of Morgantown, has been elected to fellowship, and that Dr. Joseph Russell Cook, of Huntington, and Lt. (jg) Heyes Peterson (MC), USNR, of Wheeling, have been elected to associateship.

Doctors in the Service

Capt. Leonard M. Eckmann, of South Charleston, writes from France that winter conditions there have been most severe, with frequent heavy snows over the area in which he is located.

* * * * *

Capt. John P. Brick, of Charleston, is assigned to an evacuation hospital somewhere in England.

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Major K. M. McPherson, of Beckley, who is assigned to a headquarters company in an infantry division now in Belgium writes that he has met a dcotor who was formerly in the State Bureau of Vital Statistics, but whose name he does not recall. He is located somewhere in Luxembourg. Since leaving the United States, he has also seen service in England, Scotland, France and Germany. "I have seen Aachen, Germany," he writes, "and it is all that the papers say it is—flat and utterly destroyed. The air force really laid it out."

* * * * *

Lt. Comdr. C. E. Lewis, of Charleston, who has been assigned to a Seabees Construction Battalion on Guam for the past two years, returned to the states in February, and is now on duty at the Navy Depratment, in Washington.

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Lt. Col. S. S. Bobes, of Wheeling, who has been with the station hospital at Camp Campbell, Kentucky, is now assigned to the 309th General Hospital, at Fort Jackson, South Carolina.

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Major Tyler R. Boling, of Grantsville, who has been in service somewhere in the Pacific, has been appointed to the post of Depot Surgeon at the Columbus Army Service Forces Depot at Columbus, Ohio.

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Lt. Comdr. William A. Thornhill, Jr. (MC) USNR, of Charleston, who has been stationed at the National Naval Medical Center at Bethesda, Maryland, is now serving as cardiologist at the U. S. Naval Hospital at Jacksonville, Florida. He writes that Capt. Marco Sheppe, of Wheeling, is his chief, and extends an invitation to all of his friends in his West Virginia to visit him whenever they happen to be in Jacksonville.

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Major L. R. Ayers, of Beckley, who has been stationed at the army air base at De Ridder, Louisiana, is now assigned to the Stuttgart Army Air Field at Stuttgart, Akansas.

* * * * *

Major Samuel S. Jacob, formerly physician in charge of the student health service at Bethany College, who has been in the Army since 1941, is chief of medical service in a General Dispensary somewhere in England. Prior to being assigned to service in the ETO, he was stationed in Panama for twenty-five months. Concerning his service in the Caribbean, and later in this country and in England, Major Jacob writes as follows:

"Passing through the Canal from Christobel on the Atlantic side to Balboa on the Pacific side was a thrilling experience. The Canal itself was pretty, but the great locks with their huge doors which work so smoothly were the fascinating features.

"I was stationed at Corazol on the Pacific side, and my work was chiefly sick call. Despite a vigorous program of malaria control, there was still plenty of it around. Gorgas Hospital in Panama City is a beautiful white rambling sort of hospital, built on the side of a hill. It was constructed, I am told, by the French. It is quite a busy place, well equipped and well run, offering a good interneship or residency for someone interested in tropical diseases.

"During my service in England, I have come to admire the beautiful English countryside, loathe the foggy, damp, cloudy weather, admire the British people for their grit, but form a distaste for their inadequate, decentralized heating systems. I have been here nearly seven months, but have not run into any other West Virginia doctors thus far, nor have I seen more than one or two of my former classmates at Jefferson Medical College."

* * * * *

Capt. George M. Lyon (MC) USNR, of Huntington, who is on special assignment at the U. S. Naval Hospital at Philadelphia, has been awarded the Bronze Star Medal by Admiral Harold R. Stark.

The citation is as follows:

"For meritorious performance of duty as Chemical Warfare Officer on the Staff of Commander, United States Naval Forces in Europe, during the period August, 1942, to September, 1944.

"Captain Lyon, by his force of character, industry, intense interest and special knowledge in the field of Chemical Warfare has been largely responsible for this development—not only in the Medical Departments, but in all departments—of an appreciation and understanding of the possibilities of Chemical Warfare. He was cheifly responsible for the training in defense against Chemical Warfare of the naval forces organized in the United Kingdom for the assault on North Africa, and more recently organized the program of instruction for all Naval personnel engaged in the operations against the coast of France. As a result of this indoctrination, the Naval Forces involved were prepared to a very high degree to take proper measures if they had been confronted with the use of chemical agents. By his individual effort he has established and maintained liaison with all branches of the service and civilian agencies which were doing investigative work in this field in the United Kingdom, and as a result has transmitted much valuable information to the Navy Department.

"The imaginative professional ability and unselfish devotion to duty displayed by Captain Lyon during this period were in keeping with the best traditions of the United States Naval Service."

* * * * *

Capt. T. S. McIntire, of Rowlesburg, who was formerly attached to the Kercheval Memorial Clinic, at Kingwood, writes most interestingly concerning his work in the Philippines. His letter is as follows:

December 29, 1944.
Philippine Islands.

Dear Mr. Lively:

I would like to take this opportunity to let you

know that I received your letter of December 5th with the attached membership card. I sincerely thank you and the State Medical Association for this fine gesture and it is with great pride that I have shown your letter to my associates who have not been so fortunate as to have been remembered by their respective Medical Societies.

I have now been in the South Pacific for over a year and have visited or been stationed in Australia, New Guinea, New Britain, and the Admiralty Islands. I am now in the Philippines. I have participated in two major amphibious operations, namely the invasion of the Admiralties and the initial invasion of the Philippines.

Captain T. S. McIntire

During the greater portion of the operation here in the Philippines, our hospital was set up in an ancient Spanish-type Catholic cathedral, near the front, and for the first time overseas I was able to see four walls and feel a solid floor beneath my feet. Our work here has been facilitated by the untiring effort of Filipino nurses, several of whom served on Luzon, escaped and served again with the guerrillas in the mountains before our arrival here. I am in the best of health and to date have managed to escape the innumerable maladies which plague the tropics.

Enclosed you will find a snapshot of myself and a Filipino lad whom I had just treated. The picture was taken in our dispensary, located in the church which I mentioned previously.

I wish all my colleagues at home a very Happy New Year and hope that I will see them in the not too distant future.

Sincerely yours,

T. S. McINTIRE.

LEGEND OF ARMY INSIGNIA

These days when the shoulders of so many doctors are decorated with insignia of varying importance it may be of interest to physicians in and out of the army to revive an old legend as to what those emblems mean. Here is the stroy:

As soon as it became necessary for one man to assume responsibility over the actions of a group of others, it became necessary for him to rise a bit so as to oversee their movements. So he stepped to a nearby fence and mounted one bar. He was then a lieutenant.

When still more men came under his command he neded a higher vantage point—and took unto himself a second bar.

Still later, to see still better, he climbed higher on the fence—and his shoulder brushed a leaf.

As his responsibilities increased he climbed high up into the tree, raising himself even to the level of the eagle. Only the general, who has thousands to survey, need reach still higher —to the stars!—**Pit-mor-i-an.—Bulletin Columbus Academy of Medicine.**

; Major Norman Friedman, of Longacre, writes from somewhere in the Pacific that he has been extremely busy, and has had practically no time to keep up his correspondence.

Of interest to Charlestonians is the fact reported by Major Friedman that his divisional commander is Major General Beightler, who was in charge of the construction of the Kanawha Boulevard. He seemed anxious to know if the boulevard is holding up in good shape. Major Friedman was promoted to his present rank a few months ago.

* * * * *

The following interesting letter has been received from Capt. L. Y. Peskoe, of Boomer:

13 January 1945, Northern Italy.

My Dear Mr. Lively:

I received my 1945 membership card today, and sincerely thank the State Medical Association for sending it to me. I have been overseas 13 months, and have spent most of this time as an infantry battalion surgeon with two of the three battalions of the infantry regiment which is part of the "Red Bull" division. At the present time, I am the assistant regimental surgeon.

I joined this organization shortly before the Anzio beachhead was established, and have served through the Italian campaign up to its present stage. The break-through at Anzio, the capture of Rome, the chase after the Germans up to the Anzio river, and the battle of the Gothic line up to the present positions are the outstanding features as I remember them.

I cannot stress too strongly the hardships that the infantrymen endure and feel that they can never be repaid for the sacrifices they are making. Over a long period of time, a surgeon in an infantry battalion has to go through more physical and mental strain than would be the case in other types of service.

From what I read and hear, I feel that the people at home realize that much fighting remains and are really putting their shoulders to the wheel in

the way of production.

Occasionally I run across West Virginians who have joined this regiment as replacements. They are doing a fine job, and we all look forward to the day when we can resume our civilian status at home once again. Sincerely,

Sincerely, L. Y. PESCOE.

* * * * *

Capt. Robert A. McLane, Jr., of Masontown, who has been stationed at Goodfellow Field, San Angelo, Texas, is now assigned to the Veterans Administration Facility at Dallas, Texas. Major Gilbert O. Crank, of Lawton, is also a member of the staff at this hospital.

* * * * *

In a letter written to Dr. Randolph L. Anderson last December by Capt. H. M. Hills, Jr., of Charleston, who is with an evacuation hospital in the ETO, he included a personal message for the members of the Kanawha Medical Society and the State Medical Association, which is as follows:

"I wish to thank you sincerely for your continued interest in those of us who have been away from home for a long time, as evidenced by your letters, and the arrival of The Journal each month. You may be sure that, although we may be poor letter writers (I speak only for myself), we all read The Journal "cover to cover," and look forward to the time when we can be back with you again in normal surroundings.

"I have seen very few doctors from Charleston and vicinity since I have been overseas. I was with Major Athey R. Lutz for a few months, but he is now assigned to a general hospital in England, as you probably know. I did see Capt. Richard O'Dell a couple of weeks ago, and we had quite a long talk about Charleston and "the good old days." Thank you again for the letters and publications, and best wishes for the New Year."

Sincerely, H. M. HILLS, JR.

* * * * *

Lt. Stephen L. Derkach (MC), USNR, of Glen Rogers, who has been in the Navy since late in 1942, was recently awarded the Bronze Star for outstanding performance of duty while attached to a beach battalion during the invasion of Normandy.

The citation is as follows:

"For meritorious performance of duty as a company medical officer of the Second Beach Battalion during the assault on France, June 6, 1944. Lieutenant Derkach, under heavy gunfire, repeatedly exposed himself to administer to the wounded and, without regard to his personal safety, supervised the evacuation of wounded from his section of the beach. His courage and devotion to duty were an inspiration to all officers and men having contact with him. The skill and professional ability displayed by Lieutenant Derkach, under most trying conditions, were in keeping with the best traditions of the United States Naval Service."

The award was made by Capt. C. F. Erck, USN, comamnding officer of the Amphibious Training Base, Camp Bradford, Virginia, on behalf of Admiral Harold R. Stark, commander of the U. S. Naval Forces in Europe.

Doctor Derkach is now stationed at Camp Bradford, Norfolk, Virginia.

ANNUAL AUDIT

The annual audit of receipts and disbursements of the West Virginia State Medical Association for the calendar year 1944 has been completed by Norman S. Fitzhugh, certified public accountant, and submitted to the treasurer, Dr. T. M. Barber, of Charleston. The complete audit follows:

Dr. T. M. Barber, Treasurer,
West Virginia State Medical Association,
Charleston, West Virginia.

I have audited the receipts and disbursements of the West Virginia State Medical Association for the calendar year ended December 31, 1944, and am submitting herewith statements covering the various funds for the year under review.

All receipts of record and all disbursements were verified and the cash balances were reconciled with statements of the depository banks. Sufficient tests were made to satisfy me that all receipts had been recorded. Cancelled checks evidencing all disbursements were on hand, except on check issued November 20, 1944, for $7.50, which check was outstanding at the close of the year.

I, therefore, certify that, in my opinion, all receipts in the year under review have been properly accounted for and all receipts and disbursements are correctly stated on the books and in the statements attached hereto. I further certify that the balances in bank at the close of business on December 31, 1944, aggregated $11,237.40.

A statement of cash follows:

Balance December 31, 1943	$ 8,205.16
Receipts for the period	46,402.88
	$54,608.04
Disbursements for the period	43,370.64
Balance December 31, 1944	$11,237.40

The cash balance at December 31, 1944, is attributable to the various fund accounts as follows:

General Fund		$ 4,148.27
Medical Journal Fund		16,109.02
		$20,257.29
Deficits—Indigent Fund	$2,452.13	
—Medical Defense Fund	1,167.83	
—Convention Fund	1,206.04	
—Nicholson Property Fund	4,193.89	
		9,019.89
Total All Funds—Net		$11,237.40

The life insurance policy on the life of Dr. Nicholson was surrendered in 1944 to the George Washington Life Insurance Company for its cash surrender value. A check for the proceeds, amounting to $12,093.56, was deposited in the Charleston National Bank on July 13, 1944.

The Fidelity Investment Association annuity contract was not on hand for inspection, having previously been turned over to the receivers. The ultimate recovery on the contract cannot be stated at this tmie. During the year under review distributions were made by the receivers totaling 85 per cent of the cash surrender value of the contract. The cash surrender value of contract on April 11, 1941, was 4,104.00. A check for the first distribution amounting to 60 per cent of $4,104.00, or $2,462.40, was deposited in the Charleston Natinoal Bank on June 1, 1944. A check for the second distribution amounting to 25 per cent of

THE NEW NESTLÉ'S EVAPORATED MILK

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$4,104.00, or $1.026.00, was deposited in the same bank on November 1, 1944.

The South Ruffner Park real estate known as No. 2907 Noyes Avenue, Charleston, West Virginia, was sold in December 1944 for $10,000.00. A check for $10.000.00 from the Charleston National Mortgage Company was deposited in the Charleston National Bank on December 29, 1944.

United States 2 per cent Registered Bonds of 1952-54 having a face value of $12,000.00 and bearing date of June 26, 1944, were purchased at a total cost of $12,051.18. These bonds were in the deposit box at Charleston National Bank and were inspected by us January 12, 1945.

United States Treasury Bonds having a face value of $10,000.00 were purchased at a total cost of $10,050.35 as evidenced by check No. 2102 bearing date of December 30, 1944, and payable to the Charleston National Bank. These bonds had not been received at the date of this examination.

A comparative statement of assets at December 31, 1943, and December 31, 1944, is as follows:

	Dec. 31 1943	Dec. 31, 1944	Increase * Decrease
Cash in Bank	$8,205.16	$11,237.40	$3.032.24
South Ruffner Park Property	8,442.57	.....	*8,442.57
Cash Surrender Value Life Insurance	11,650.00	.....	*11,650.00
Annuity Contract—cost	5,544.20	55.80	*3,488.40
2 per cent U. S. Treasury Bonds, Face Value $22,000.00	.....	22,101.53	22,101.53
	$31,841.93	$33,394.73	$1,552.80

NORMAN S. FITZHUGH,
Certified Public Accountant.

Charleston, W. Va.,
January 18, 1945.

WEST VIRGINIA STATE MEDICAL ASSOCIATION
COMBINED STATEMENT OF RECEIPTS AND DISBURSEMENTS
CALENDAR YEAR 1944

BALANCE JANUARY 1, 1944		$8,205.16
RECEIPTS:		
Dues (Net)	$ 9,472.67	
Interest on Savings	1.27	
Sale of old Water Heater	4.00	
Fidelity Assurance Association—distributions on contract	3,488.40	
Sale of Dictaphone	200.00	
Interest on U. S. Treasury Bonds	112.79	
Special Assessments	55.00	
Advertising (Net)	8,034.69	
Subscriptions to Journal	65.50	
Commercial Exhibits	2,160.00	
Rent—Nicholson Property	715.00	
Sale of Nicholson Property	10,000.00	
Surrender of Life Insurance Policy	12,093.56	
Total Receipts		$46.402.88
		$54,608.04
DISBURSEMENTS:		
General Fund	$13,100.13	
Medical Journal Fund	6,429.26	
Convention Fund	1,514.86	
Nicholson Property Rent Acconut	22,326.39	
Total Disbursements		$43,370.64
BALANCE DECEMBER 31, 1944		$11,237.40

THE WEST VIRGINIA MEDICAL JOURNAL

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URINARY COMPLICATIONS FOLLOWING SULFONAMIDE ADMINISTRATION WITH EMPHASIS ON CALCULI FORMATION

By SAMUEL L. SCHREIBER, M. D., and G. G. IRWIN, M. D.,*
Charleston, West Virginia.

With the first cautious presentation of prontosil by Domagk, confirmed by Colebrook,[6] an era of hopeful chemotherapy was inaugurated. As reports of miraculous cures of seemingly hopeless cases accumulated, the era of cautious experimentation and skepticism gave way to a period of acclaim and was followed by unrestricted usage of the chain of compounds initiated by the parent sulfonamide (para-aminobenzene-sulfonamide), sulfanilamide. This perhaps was important for clinical advancement, but with the more widespread use of these drugs in the treatment of various infectious diseases, an era of disaster was inevitable and reports of complications appeared in the literature with considerable frequency.

A variety of toxic reactions has been described and grouped according to symptoms and systems involved. These will not be discussed but are listed as follows:

1. Cerebral and nervous symptoms including dizziness, headache, lassitude, excitement, mental confusion, disorientation, psychoses, peripheral neuritis, and yellow vision.

2. Toxic symptoms including acidosis, anorexia, nausea, vomiting, cyanosis, pyrexia, arthralgia, lymphadenopathy, conjunctivitis, and dermatitis from erythematous to exfoliative.

3. Hematologic complications including hemolytic anemia, agranulocytosis, leucopenia, purpura, and thrombocytopenia.

4. Visceral damage involving the liver with hepatitis and jaundice; splenomagaly; kidney damage with nephrosis, toxic nephritis, focal renal necrosis, membranous pyelitis, and renal calculi.

Perhaps the most alarming complications, both to the patient and physician and the most easily prevented, involve the urinary tract. During the past year, especially during the seasonal increase of upper respiratory infections and influenza, or perhaps due to the more indiscriminate use of these drugs during this period, we have been impressed by the comparative frequency with which urinary complications develop when the ordinary precautions of administration of the drug are not observed, or when contraindications to employment of the drug are overlooked. The literature contains increasing numbers of reports of renal obstruction during therapy with sulfapyridine, sulfathiazole, sulfadiazine, and now sulfamerazine. We, too, have noted the increase of sulfonamide crystal formation complicating the treatment of various medical and surgical conditions both in the experience of this hospital and in verbal reports from other hospitals in the state.

*From the Surgical Service, Charleston General Hospital, Charleston, West Virginia.

For this reason it is perhaps not amiss to emphasize some of our experiences with urinary complications developing in the sulfonamide treatment of the ambulatory and bedfast patient, and to reemphasize some of the experiences in the literature.

ABSTRACT OF CASES DEVELOPING RENAL COMPLICATIONS

This report presents twelve consecutive patients referred to us within the past year who developed urinary complications during the course of medical treatment. No attempt is made to correlate the percentage of renal complications to drug usage, for that has been adequately investigated in the literature. The conclusions emphasize the toxicity of the drugs and the individual factors of each patient to drug sensitivity. The purpose of this paper, then, is to call attention to the symptoms of renal involvement and to discuss the prevention and therapy of renal complication.

Of our patients six were treated for influenza with complications of pleurisy (2), and bronchopneumonia (3); three were treated for upper respiratory infections, viz: bronchitis (1), sore throat (1), and possible infiuenza and/or bronchopneumonia (1); one was treated for otitis media exacerbated by sinusitis; one for salpingitis with peritonitis; and one for gonorrhea.

The ages ranged from 3 to 63; there were 6 males and 6 females. As to the drugs used, one was given sulfanilamide, one sulfamerazine, one sulfadiazine and later sulfamerazine, one sulfathiazole and later sulfamerazine, one sulfathiazole and then sulfanilamide, three sulfathiazole, and four sulfadiazine.

The dosage ranged from 6 Gm., administered in two days to the three-year-old, to a total of 86 Gm. of both sulfathiazole and sulfamerazine given to one patient over a fifteen-day period. The drugs had been given over a period of from two to twenty days.

In diagnosing urinary lithiasis, we have followed the criteria of Hall and Spink [19] (renal colic, hematuria, unexplained oliguria, and anuria with or without azotemia; and of Dowling and Lepper [9] (gross hematuria, anuria, oliguria, pain over the kidneys or ureters, or a combination of these). Neither the presence of sulfonamide crystals in the urine nor microscopic hematuria is considered indicative of the presence of a calculus, since these elements are present in the urine of a great many patients receiving the sulfonamide drugs.[9]

The complaints in all cases were those of renal calculi and obstruction and were usually initiated by chill or chillniess and fever, nausea and vomiting, followed by lumbar and flank pain either unilateral or bilateral, of various intensity, and tenderness associated with abdominal cramps and rigidity, and typical radiations of pain to the bladder, genitalia, or lower abdominal quadrants and later oliguria, urgency, hematuria, and anuria. All had a secondary elevation of temperature. Seven had bilateral lumbar or flank tenderness from one to six days. Five had unilateral pain. All had abdominal radiations and tenderness of the type indicated above from one to five days, and five had associated abdominal rigidity. Seven had hematuria, ten had oliguria, nine had albuminuria, and eight had anuria ranging from five and one-half to sixty hours. Two patients developed anuria three days after cessation of administration of the drug (sulfathiazole). Two developed anuria two days after the drug was discontinued, and one developed anuria one day after the drug was stopped.

The urine was acid in nine cases on admission, and alkaline in three. The pH of the urine tested in two cases given sulfadiazine was 4.5. Intravenous pyelography was done in six cases, five were negative and one given sulfadiazine showed no dye in the right kidney after fifty minutes. Six patients with severe anuria required cystoscopy, and all showed concretions and crystalline material in the bladder and ureters producing varying degrees to complete inhibition to the passage of the ureteral catheters. In addition, two patients presented associated anomalies, one had a stricture of the urethra and the other had a urethral caruncle and stricture. The above, including treatment instituted, is summarized in the case reports.

RENAL COMPLICATIONS

Urinary complication is a serious matter often leading to death. A perusal of some of the voluminous literature on the subject, including clinical and experimental reports of renal complications following usage of sulfonamides (sulfathiazole, sulfapyridine, sulfadiazine, and sulfamerazine), indicates the importance of careful observation and clinical control of the patient receiving such medication. Sutliff [49 50] in 1943 analyzed 28 deaths due to sulfonamide administration. Of 13 well established cases, 3 died from sulfathiazole after eight, ten, and thirty-one days and one died from sulfadiazine after twenty-two days. Of the remaining 15 not well

established cases two died with acute nephrosis, one due to sulfathiazole after thirteen days, and the other due to sulfapyridine after four days; six died in uremia (azotemia, urea retention, and increased NPN), three from sulfathiazole, two from sulfapyridine and one from sulfadiazine. Of these, one had bilateral renal calculi, two had hypertension, one with nephrosclerosis, and two had nephritis, one with arteriosclerosis.

Death due to ureteral obstruction and anuria following sulfathiazole has been reported by Lindner and Atcheson [29] (two cases autopsied); Lederer and Rosenblatt [28] (four cases autopsied); Merkel and Crawford [38] (four cases autopsied); Winsor and Burch [55] (six cases, autopsy findings showing sulfathiazole crystal in the renal tubules and tubular degeneration); Prien and Frondel [42] (five deaths from uremia, but no tubular obstruction demonstrated). Necrosis, degeneration, and edema were found which is similar to changes reported in other visceral organs [28 38]); Loewenburg, Sloane, and Chodoff [35] (sixteen cases autopsied, no uroliths found). Long, Haviland, Edwards, an Bliss [34] believe the anuria is due to a true toxic injury of the tubules similar to a bichloride of mercury poisoning, and Wattenburg and Coleman [53] note this condition is referred to as sulfanephrosis.

Similar deaths due to sulfadiazine have been reported by Bradford and Shaffer [3]; Schulte, Shidler, and Neibauer [46]; Raines [43]; Hellwig and Reed [20]; Keitzer and Campbell [27]; Rottino and La Rotund [44]; Finland, Peterson, and Goodwin [12]; Louria and Solomon [36] who report complete anuria, as do Wright and Kinsey [59]; Thompson, Herrell, and Brown [51]; Jeck and Orkin [25].

Sulfapyridine is not used very extensively in this country now. In addition to the deaths recorded by Tsoa [52], complete anuria and hematuria have been demonstrated by Carroll, Shea, and Pike [5]; Gross, Cooper, and Lewis [18]; Stryker [48]; Southworth and Cooke [47]; Sadusk, Waters, and Wilson [45]; Plummer [40]; Dowling and Lepper [9]. Now sulfamerazine is producing urinary complications [10 13 19] comparable to sulfadiazine in spite of claimed increased urinary solubility and thereby lessened therapeutic dosage. No deaths have been reported as yet, which is a valuable reflection on the accumulated experience with the sulfonamides.

Of other complications excluding renal calculus [9] (with hematuria, anuria, kidney or ureteral pain, oliguria, nitrogen retention [37], cystalluria), Adams [1] reported membraneous pyelitis following both sulfathiazole and sulfadiazine and Newman and Shleser [39] reported a conglomerate putty crumbly kidney mass removed surgically two years after sulfapyridine was administered.

Apparently sulfanilamide is not predisposed to produce renal damage since it is highly soluble and rapidly excreted. Marshall, Cutting, and Emerson [37] have noted a temporary decrease in renal function with large doses of sulfanilamide but no permanent kidney injury. Similarly Long, Bliss, and Feinstone [33] have noted the absence of renal irritation with sulfanilamide, and Adams [1] has reported that no anuria has been reported in the literature with this drug; however, Lockwood, Coburn, and Stokinger [30] reported two cases of hemoglobinuria in a series of 250 cases treated with sulfanilamide. Our one case of sulfanilamide renal complication concurs with some of these observations, but it must be noted that such a complication is indeed a rarity.

It appears that the toxicity of sulfanilamide to the kidney is a temporary effect following large doses, and is due to decreased output of urine by depression clearances of creatinine and sulfanilamide, which is due to a decrease in the glomerular filtrate produced by a decreased blood supply to the kidney.

The reabsorption of a large amount of filtered sulfanilamide may interfere with bicarbonate absorption producing alkaline urine and resulting in the production of acidosis [37].

The above indicates that there are several mechanisms by which renal complications due to the sulfonamides may occur.

Type I. Complications produced by concretions or precipitates causing blockage of the renal tubules, the kidney pelvis, or the ureter. Such patients may receive large doses of sulfonamide and may show no demonstratable renal complication even when there is a profuse crystalluria. It is the experience of Wattenberg and Coleman [53] that when blockage by crystals does occur, it usually takes place in the kidney pelvis, "dysuric type," when the ureteral orifices are smaller than usual, or when congneital or acquired malformation is present. The symptoms are those of calculus with lumbar pain, hematuria, frequency, oliguria, anuria.

Type II. Complications produced by focal necrosis, toxic or sulfanephrosis causing renal

changes producing oliguria, anuria, and the uremia complex in the absence of precipitates. This may be associated with Type III.

Type III. Complications due to allergy or idiosyncrasy.

MECHANISM OF RENAL CALCULUS FORMATION

Absorption of sulfonamides occurs from the gastro-intestinal tract when ingested, mostly in the stomach, is modified by food, is most rapid before meals, is most complete after meals [24], and concommitant alkali administration plays a role in the increased amount absorbed [17 24] from the blood stream when injected, from serous surfaces or raw or wound surfaces when applied topically—and is transported by way of the blood stream and other body fluids. The elimination of the sulfonamides takes place almost completely in the urine. The free drug is excreted by the kidney as well as the combined form conjugated in the liver.

According to Cushney's theory, blood entering the kidney is filtered by the glomeruli, exclusive of the plasma proteins, but selective resorption of solid takes place in the tubules. According to this theory, the reabsorbed fluid is of constant composition under all conditions of health. The glomerular membrane plays a passive role, i. e., the effective filtration pressure is dependent upon the difference of blood pressure within the capillary loops and the pressure in Bowman's capsule, and the osmotic pressure of the protein colloids of the plasma; variations in this pressure will alter the volume but not the composition of the filtrate.[2] The tubular epithelium is active in its concentration of urine, but selective. Some substances are actively reabsorbed such as water, glucose, and chlorides; some substances diffuse back into the blood stream through the tubular epithelium when their concentrations in the tubular fluid is greater than in the plasma, such as urea and uric acid; some substances are nonthreshold and are neither absorbed nor diffused such as creatinine and sulphates. The proximal tubules resorb about 20 per cent of the water; the remainder of the water is absorbed from the ascending limb of Henle's loop and the distal convoluted tubule; therefore, as the glomerular filtrate passes down the renal tubules, it is concentrated by resorption of water. This results in a concentration of the urine to a point where the solubility of the sulfonamide or its acetylated form is exceeded and precipitation occurs. This will be elaborated upon further. (Figure 1.)

The volume of the urine may be increased by an increased filtration rate, reduced reabsorption rate, or both, which are influenced by a number of factors. Urine output is decreased in cardiac failure, inflammatory conditions of the kidney,

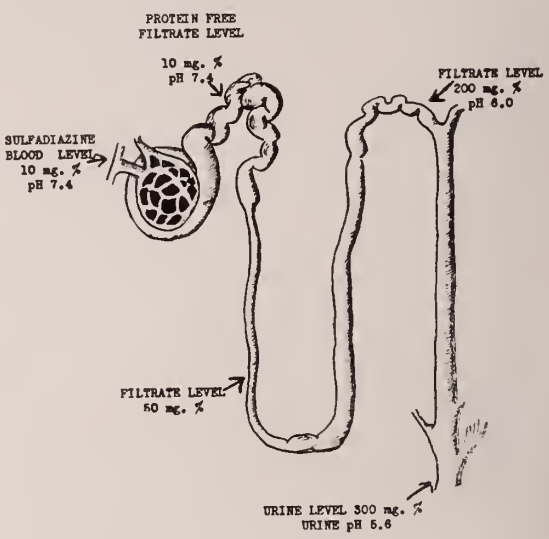

FIG. I

DIAGRAMMATIC REPRESENTATION OF THE RENAL EXCRETION OF THE SULFONAMIDE COMPOUNDS. AS THE URINE IS FORMED, THE CONCENTRATION OF THE SULFONAMIDE MAY BE INCREASED THIRTY TIMES OR MORE. PRECIPITATION WILL DEPEND ON THE SOLUBILITY OF THE PARTICULAR DRUG AT THE CONCENTRATON AND pH RESULTING FROM URINE FORMATION.

(J. A. M. A. 121:1150 April 3, 1943. Fox et al; The Prevention of Renal Obstruction During Sulfadiazine Therapy.)

fevers, dehydrated states such as decreased fluid intake, vomiting, diarrhea, and increased perspiration (summer dehydration). It is these factors (increased urinary concentration and diminished urinary volume resulting from decreased fluid intake which accompanies illness, excessive perspiration associated with hyperpyrexia and vomiting or diarrhea complicating disease) plus additional factors including the pH of the urine, the concentration of sulfonamide in the blood stream, and the solubility of the particular sulfonamide in solution which is responsible for the formation of sulfonamide precipitation. Also, the distribution of the drug in the body varies. This depends on its ionization [11 14 26] and on the binding of the drug to the proteins in the plasma [8 24]. Another important physical factor which must be considered in the solubility of the drug, is the temperature of the patient [42]. That is, a patient with a fever may tend to elevate the temperature of the body fluids including the urine and will thereby hold more sulfonamide in urinary

solution. This will cause precipitates when a saturated solution becomes supersaturated as the temperature suddenly drops to normal. Other factors affecting the incidence of crystalluria are the average daily urinary volume, the average specific gravity of the urine specimen examined, and the average daily dose of the sulfonamide [17].

Urine output is tremendously increased by the ingestion of fluids and becomes greatly diluted. The process of this diuresis is not fully understood. However, as will be emphasized later, this is the ideal rationale for the therapy of sulfonamide renal complication.

THE RENAL TOXICITY OF THE VARIOUS SULFONAMIDES

The solubility of the sulfonamides and their acetyl derivatives vary. Table 2.) This, coupled to the rate of absorption and excretion is probably responsible for the toxicity of the various sulfonamides as well as the tendency to form renal complication. Hall and Spink [19] state that sulfamerazine is slightly more toxic than sulfadiazine. It has a tendency to slightly greater renal disturbance. However, Flippin, Reinhold, and Gefter [13] maintain that the drug has advantages over sulfadiazine by virtue of pharmacologic behavior, therapeutic efficacy and low toxicity since smaller amounts are required to produce a therapeutic effective blood level. And since it is more soluble in the urine, crystal and concrement formation in the urinary tract may be less likely to occur. The total toxicity of 400 patients treated, including renal complications was 9.5 per cent maintained on a plasma concentration of 10.9 to 15.4 mg. free drug per 100 cc. By comparison of 428 patients treated with sulfamerazine and 900 patients treated with sulfadiazine by Dowling, Dumoff-Stanley, Lepper, and Sweet [10] the conclusion was reached that the greatest difference between the two drugs occurs in the incidence of renal calculi diagnosed by pain in the kidney area, hematuria, anuria, oligùria, or any combination of these. Defined in this way calculi resulted in 3.5 per cent cases treated with sulfamerazine and only 1.3 per cent of the patients receiving sulfamerazine. Sodium bicarbonate was given mostly to patients receiving sulfamerazine, since it is noted there is evidence that alkalis diminish the incidence of renal calculi [15 17], so that the lesser incidence of renal calculi observed in those receiving sulfadiazine cannot be explained on the basis of alkali therapy. Dowling et al [10] broke their figures down into dosage levels. Sulfadiazine and sulfamerazine were given as follows: One group received 6 Gm. of the specified drug at once, and 1 Gm. every four hours. Renal calculi were present in 1.5 per cent of those receiving sulfadiazine and 8.6 per cent of those receiving sulfamerazine. A second comparable group received 2 Gm. of drug at once and 0.5 Gm. every four hours. No renal complications developed in those receiving sulfadiazine, whereas those receiving the same dose of sulfadiazine had an incidence of 3.4 per cent. The free blood level

TABLE 1

Reference	Compound	Solubility pH		
		5.5 mg. per 100 cc.	6.5 mg. per 100 cc.	7.5 mg. per 100 cc.
Macartney, Smith, Luxton, Ramsey, and Goldman. (Lancet, 1:639, May 30, 1942)	Sulfapyridine	61	61	62
	Acetylsulfapyridine	33	34	37
Climenko, Barlow, and Wright. (Arch. Path., 32-889, December, 1941)	Sulfathiazole	98	108	235
	Acetylsulfathiazole	7	9	28
Gilligan, Carb, Wheeler, and Plummer. (J. A. M. A., 122:1160, April 21, 1943)	Sulfadiazine	13	28	200
	Acetylsulfadiazine	20	75	512
Gilligan and Plummer. (Proc. Soc. Exper. Biol. & Med., 53:142, June, 1943)	Sulfamerazine	35	45	170
	Acetylsulfamerazine	38	57	272
Gilligan and Plummer. Ibid.	Sulfamethazine	69	76	140
	Acetylsulfamethazine	90	107	240

Solubilities of Various Sulfonamides and of their N,—Acetyl Derivatives at Different pH levels
(Gilligan et al. J. A. M. A., 122:1160-1165, August 21, 1943)

in comparable groups was greater in those receiving sulfamerazine, but of a third group studied, given sulfamerazine; 1 Gm. statim and 0.5 Gm. every eight hours, 1.7 per cent patients developed renal calculi, illustrating that calculi occur on lower blood levels of sulfamerazine as compared with sulfadiazine. In passing, it should be noted that only the free drug is therapeutically active; the portion of drug bound to the proteins is therapeutically inactive, and Gilligan [17] has shown that approximately twice as much sulfamerazine as sulfadiazine is bound to the serum proteins. However, as noted, lower doses of sulfamerazine reach a greater blood level than sulfadiazine [10], but if greater binding of sulfamerazine to the blood proteins occurs, it appears that much higher blood levels of sulfamerazine must be maintained to be as therapeutically active as sulfadiazine. Of groups of patients compared, Dowling and Lepper [9] found renal calculus in 1.6 per cent patients receiving sulfapyridine, in 2.8 per cent of patients receiving sulfathiazole, and in 1.5 per cent of patients receiving sulfadiazine.

THE FACTOR OF pH OF THE URINE AND ADJUVANT BICARBONATE ADMINISTRATION

As has been shown, the sulfonamides differ in their solubility and the complications are attributed to poor solubility of the drugs and their acetyl derivatives. Sulfanilamide is a relatively soluble drug, therefore, renal complications are rare, while sulfapyridine, sulfathiazole, sulfadiazine, and sulfamerazine and their acetyl derivatives are relatively insoluble (table 2). It has been shown that there is a decided increase in the solubility of these drugs as the urine is made alkaline [11 14 15 17 26] (table 3). The explanation has been that these substances are weak acids which ionize and form soluble salts in an alkaline medium. In urine from pH 5.0 to 7.0 there is little salt formation and thereby no appreciable increase in solubility [14 15 17]. From pH 7.0 to 8.0 there is extensive salt formation and the solubility of sulfadiazine, sulfamerazine, and sulfathiazole is increased (table 2). With sulfapyridine extensive salt formation does not occur until pH 9.0 to 10.0 is reached which is beyond the range of urine and accounts for the failure of alkaline therapy to prevent renal precipitation of this drug. For example, Sadusk et al [15] call attention to hematuria in a patient apparently receiving adequate sodium bicarbonate, for the urine was alkaline. With sulfanilamide, salt formation occurs at pH 10.6 but sulfanilamide is a relatively soluble drug. In further experiments it was noted that the pH of the urine closely regulated the concentration of sulfadiazine that was excreted in solution in the urine (figure 1), i. e., low levels were obtained in acid urine and high levels in alkaline urine during constant drug dosage. Fox et al [15] also showed that, while increasing the urinary output from 1,000 to 2,000 cc. may double the quantity of sulfadiazine in solution, raising the pH from 6.5 to 7.5 will permit more than a tenfold increase in solubility (table 2). A single dose of 25 Gm. and 30 Gm., respectively, of sodium sulfadiazine was administered to two patients suffering with subacute bacterial endocarditis after preliminary alkalinization with potassium and sodium bicarbonate. Alkali intake with 10 Gm. $NaHCO_3$ daily was maintained and fluids were forced. Blood concentrations to 69.5 mg. and 138 mg., respectively, per 100 cc. were attained. In the second patient after further study, from 8 to 20 Gm. sulfadiazine was administered for seventeen days with an average daily intake of 12.1 Gm. sodium bicarbonate and fluids to produce a daily volume of 1200 to 3300 cc. The blood serum level averaged 25 mg. sulfadiazine per 100 cc.

The practical points inferred from the above is that the so-called routine use of alkalis will not keep the urine alkaline and prevent crystalluria. The quantity of alkali needed should be governed primarily by the pH of the urine and not by the amount of sulfonamide given. For, as water is reabsorbed by the tubules, the base is also absorbed so that the pH may be lowered from that of the blood (7.4) to as low as 5.5 (commonly found in urine). By thus lowering of the pH in the case of sulfathiazole, sulfadiazine and their acetyl forms, the soluble salts are converted to insoluble acids and precipitation occurs. It is the morning specimen of urine which has the lowest pH, the highest concentration of sulfonamide, and which is most apt to contain crystals [17]. For this reason, Fox et al [15] advocate administering alkali at night to counteract this tendency.

It should be noted at this point that Dowling and Lepper [9] have kept patients on blood sulfadiazine levels of 20 mg. without calculi formation by giving large amounts of fluids. They believe the proper relationship between fluid and sulfonamide intake is the key to the prevention of calculi. They note that in every case of calculi formation the patient was dehydrated, took insufficient fluids, or was given large doses of intravenous sulfonamide

without sufficient fluids. This has been our observation also. If fluid intake and output are sufficient to keep the crystals in solution, calculi will not form. Prien and Frondel [12] call attention to the fact that the onset of renal complication bore no necessary relationship to the abundance of crystals in the urine, and the symptoms of calculus formation may begin anytime including the first day of sulfonamide administration [9]. A test tube of urine from a patient receiving large doses of drug, will, on cooling, show a solid deposit of crystals amounting to as high as 10 per cent of the volume of the urine. Studies of these precipitated crystals have shown they were too large to pass through the kidney tubules. Crystallization therefore, could not have occurred until at least the renal calyx was reached.

Further, the activity of the sulfonamides on some organisms, as noted in urologic treatment, depends on the pH of the urine. For example, sulfathiazole will destroy Streptococcus faecalis in a concentration of 25.5 mg. per 100 cc. at pH of 5.0. As the degree of acidity decreases a greater concentration of drug becomes necessary until at a pH of 7.5, 200 mg. per 100 cc. will do no more than produce some bacteriostasis [7]. Helmholz [21] has shown also that strains of B. coli resistant to acid are also resistant to sulfathiazole and in low concentrations [22] the bacteriostatic action of sulfadiazine and sulfathiazole are superior to the other sulfonamides (0.5 and 2 mg. drug per 100 cc.). At 0.5 mg. sulfathiazole is more effective than sulfadiazine [22]. The factors influencing the results obtained according to Cook [7], are the type of organism present, the type of case treated, the mode of administration and dosage, and the patient's ability to tolerate the drug as evidenced by toxicity.

Janeway [24] notes that although sodium bicarbonate is recommended to make the urine alkaline and prevent crystal deposition, he is doubtful that the urine can be rendered sufficiently alkaline to alter the solution of these compounds. He calls attention to the concentration of the glomerular filtrate as it passes down the renal tubules by the resorption of water which concentrates the urine to a point where the solubility of the sulfanilamide or its acetylated form is exceeded and precipitation then occurs. However, alkali is suggestion when hematuria or oliguria occurs.

Gilligan et al [17] showed that crystals disappeared from the urine after appropriate amounts of sodium bicarbonate were administered (table 3). The incidence of crystalluria in patients not treated with adjuvant alkali therapy is much higher (30 per cent) than the incidence of renal irritation or urinary tract obstruction in patients so treated (4.8 per cent) [17]. Of 350 patients treated with 6 Gm. sulfadiazine orally per day and sufficient alkali to maintain the urine neutral or alkaline throughout the therapy, no instance of renal complication occurred. The blood sulfadiazine levels ranged from 12 to 25 mg. per 100 cc., the daily urine volume from 1,000 to 3,000 cc., and the sulfadiazine urinary excretion from 9 to 14 Gm. per day. Although the dosage of sodium bicarbonate needed to maintain the urine neutral to alkaline varied in different patients, it was demonstrated that with 6 Gm. of sulfadiazine administered daily (1 Gm. every four hours), 19.5 Gm. of sodium bicarbonate in six daily doses (50 grains each), kept all the urines alkaline, whereas with insufficient alkali renal complications were produced. They conclude that an initial dose of 6 Gm. sodium bicarbonate followed by a daily intake of 15.6 Gm. divided into 2.6 Gm. (40 grains) given every four hours will prevent renal reactions produced by 6 Gm. sulfadiazine daily (1 Gm. every four hours). No alkalosis occurred since the kidney can excrete alkali sufficient to produce a pH of 8.2. The alkali can be increased or decreased as indicated by the pH of the urine tested with litmus or nitrazine paper. Alkali therapy should be continued for one day following cessation of sulfadiazine. The same dosage of alkali is also recommended for patients receiving 4 Gm. sulfadiazine daily (1 Gm. every six hours).

TABLE 2

Daily Dosage of Sodium Bicarbonate in Grams	No. of Patients	No. of Urines	Per cent of Crystalluria	Per cent of Acid Urines
0	23	90	31	90
0	13	71	18	59
13.7	10	39	0	0
19.5	17	51	0	0

Study of Bicarbonate Dosage Required to Maintain Urine Neutral to Alkaline in Patients Receiving Usually 6 Gm. of Sulfadiazine Orally per Day.

(Gilligan et al. J. A. M. A., 122, p. 1160, August 23, 1943)

Similarly it was demonstrated that sodium sulfadiazine administered intravenously in amounts of 5 Gm. per day produces a high incidence of crystalluria (43 per cent) [17] and renal complication, ad-

juvant alkali is necessary even though it may be necessary to administer it intravenously. This is because 5 Gm. sodium sulfadiazine has a sodium content of 0.42 Gm., only 1.5 Gm. of sodium bicarbonate.[17]

THE IMPORTANCE OF SULFONAMIDE BLOOD CONCENTRATION IN RENAL COMPLICATION

In a study of the pathogenesis of complications in the urinary tract, it is important to consider the blood level concentration of the sulfonamides since almost all the drug is transported by way of the blood stream in its excretion by the urine. This, of course, among other things, is directly dependent on the daily dosage of drug, the rate of absorption and execretion, and the possible cumulative action as well as other facts noted, for the higher the blood level the greater the possibility for calculus formation. Dosage is a controversial subject not within the scope of this paper. However, a certain blood level is desirable if therapeutic results are to be achieved. It has been noted that calculi are more apt to occur in those patients in whom higher blood levels were maintained as in meningitis, pneumonia, and endocarditis[9]. Brown, Thornton, and Wilson[4] have shown that the higher the level of sulfapyridine in the blood, the greater the possibility of calculi being formed. Dowling and Lepper[9] have confirmed this and have shown that this same relationship holds true for sulfathiazole and sulfadiazine. Janeway[24] has prepared a guide (table 4), presented in part, which gives an average desired level for most infections. In urinary conditions, however, much smaller doses are needed for the desired therapeutic effect because of the concentrating action of the kidneys. But it is a matter of record that the blood concentration of the sulfonamide bears no relation to toxic nephrosis of the kidney; in this complication, the sulfonamide concentration is usually low. The toxic factor may be an allergy or sensitivity, i. e., edema of the angioneurotic type. Blood concentration without a knowledge of the fluid intake, i. e., state of hydration, is of no practical therapeutic value, but is a definite source of danger. As shown, blood levels of 10 mg. per 100 cc. may be obtained on 4 to 6 Gm. of drug daily while the concentration in the urine may reach 300 mg. per 100 cc. (figure 1).

Hall and Spink[13] state that if the patient is showing satisfactory clinical progress in spite of low blood sulfonamide level, the dose should not be increased. The results will be similar with higher dosage, if the urinary pH is kept at 7.5.

Blood level determination is an indicator of the saturation of drug for therapeutic effect, if sufficient fluid intake is maintained. It is perhaps more important as a gauge for those patients, who having high blood levels, can now be carefully supervised, since urinary complications are more prone to occur in them.

The goal in therapy is to administer the lowest degree concomitant with absorption and excretion, to produce the maximum therapeutic effect. Irwin[22] has shown that sulfanilamide appears in the blood stream in fifteen minutes, reaches a peak in one and one-half hours, and rapidly falls. A blood level can be maintained with small maintenance doses every two hours. Similarly sulfa-

TABLE 3. Extracted from Janeway[24]
(Addition of sulfamerazine from literature)

Drug	Rate of Absorption	Rate of Excretion	Blood Level Desired mg. 100 cc.	Incidence of Renal Complication	Comment
Sulfanilamide					
Free				Rare	Seldom used because of subjective discomfort, low potency ,and anemia.
Conjugated	Rapid		8-15		
Sulfapyridine		Rapid			
Free		Rapid (Sol.)			
Conjugated	Irregular		5-10	Hematuria frequent	Potent but seldom used because of vomiting and irregular absorption.
Sulfathiazole		Rapid		Oliguria occasional	
Free		Slow (Insol.)			
Conjugated	Rapid		3- 7	Hematuria occasional	Very potent, well tolerated but most apt to cause renal complications, to sensitize causing rash and fever. Difficult to maintain desired blood level because of rapid excretion.
Sulfadiazine		Rapid		Oliguria frequent	
Free		Rapid (Insol.)		(Anuria)	
Conjugated	Slow		8-15	Hematuria occasional	Not quite as potent but best tolerated and high blood levels easily achieved because of slow excretion. Treacherous since serious toxic reactions may occur after cessation of therapy and also owing to slow excretion. ((Considered least toxic.)
Sulfamerazine		Slow		Oliguria rare	
Free		Slow (Sol.)		(Anuria)	
Conjugated	Slow			(Lumbar pain)	
(Added from literature)		Slow Slow (Sol.)	10-15	Hematuria occasional Oliguria rare	Slightly more toxic than sulfadiazine with no apparent advantages.

thiazole should be administered every three hours and sulfadiazine every four hours, because their peaks are reached by this time. Small doses of drug are then sufficient to maintain a constant but lower level to exert therapeutic effect by additive action.

We wish to call attention to renal complications occurring among our patients who had relatively low blood concentrations, viz: Case 1, sulfathiazole level 1.1 and sulfanilamide level 2.0 (total 3.1); case 6, sulfathiazole level ranging from 1.3 to 8.3; case 8, sulfathiazole concentration 1.9; case 4, sulfadiazine concentration 8.4.

PRACTICAL PREVENTION OF SULFONAMIDE CALCULI

Of practical importance in the prophylaxis of sulfonamide calculi is the observation, which coincides with our experience, that a patient ill enough to require sulfonamides may be dehydrated from vomiting, diarrhea, hyperpyrexia, or excessive perspiration, or that he may take insufficient fluids. It should be borne in mind that ill patients, especially children, are unable to help themselves and usually shun fluids. Also, after sulfonamides have been given, gastrointestinal complications such as nausea, anorexia, or vomiting may occur, further interfering with fluid intake. Therefore, to maintain hydration, fluids must be forced and administered by the methods available. The most important single factor in preventing calculi is an adequate fluid intake and, according to Dowling and Lepper [9], the key to the situation is the proper relationship between fluid intake and output and sulfonamide intake, to keep the crystals in solution. As noted, diuresis is influenced by the ingestion of fluids, for an amount of urine is excreted greater than the amount of fluid consumed [2]. Therefore a careful record should be kept. The adequacy of fluid intake is judged by the urinary output. This has been estimated by all writers to be from 1,200 to 1,800 cc. per day, but should be increased with higher dosage of drug to 3,000 cc. per day. Increased fluid intake should be maintained a few days after the drug is discontinued to flush the system thoroughly. This is important, for we record two cases of anuria developing three days after sulfathiazole was discontinued; two cases two days after the drug was stopped, and one case one day after the drug was omitted. Long [32] states that most of the drug is eliminated within four days after the patient stops taking it.

The second important factor, as has been shown, is the administration of a sufficient alkali (sodium bicarbonate) to maintain the pH of the urine at 7.5 or higher. As demonstrated, increasing the fluid output from 1,000 cc. to 2,000 cc. doubles the sulfonamide excretion, increasing the pH of the urine from 6.5 to 7.5, increases the solubility of the sulfonamide tenfold (table 2). The dose of sodium bicarbonate advised has been calculated to be 40 grains every four hours with 1 Gm. of sulfadiazine. Practically, the urine can be tested with nitrazine or litmus paper since color changes of gray-blue to blue occur with nitrazine at pH 7.0 to 8.0 and of red to blue with litmus paper at pH 7.2.

A patient that fails to respond to adequate or large doses of drug within forty-eight to seventy-two hours of therapy should be carefully evaluated for complications of the disease, contraindications of the drug, or other reasons for failure of response. Janeway [21] has called attention to phases in the effect of sulfonamides on bacterial growth by in vitro studies responsible for failure:

1. "Lag" phase: The bacterial growth continues for several hours after treatment is begun.
2. Bacteriostasis: This may be even bactericidal to the organism.
3. Escape phase: The bacteria escape from the influence of the sulfonamide either because the organism may autolyze to liberate an inhibitor substance into the medium to overcome the sulfonamide effect or a drug-resistant organism develops. This depends on the ability of the organism to synthesize para-aminobenzoic acid, the ability to escape destruction by the phagocytes, and the ability to multiply. Inhibitor substances are in addition to para-aminobenzoic acid, killed, and autolyzed bacteria, yeast, autolyzed liver, pus, and tissue-breakdown products or necrotic tissue.

A blood level determination of the sulfonamide should be taken, also a blood NPN. According to Prien and Frondel [42], a slight elevation of the NPN is the earliest definite sign of renal complication, even preceding clinical symptoms. The urines should be checked as mentioned and the patient carefully examined. The drug can then be discontinued, modified, or substituted as need be. A patient responding to the drug as evidenced by clinical signs, may then have the drug adjusted to lower dosage levels.

The avoidance of indiscriminate use of the sulfonamides can be effected by a knowledge of the

pathologic organism involved and the employment of the compound most specific or effective against it. For example, in most urinary infections, sulfathiazole is most effective; in specific pneumonias, sulfadiazine is most efficacious. Thus the patient is not saturated with ineffective medication and host resistance to an active drug is avoided.

The urines should be checked at least once daily, preferably in the morning when the pH is most marked, beginning with the onset of sulfonamide therapy. Dowling and Lepper [9] cite calculus developing one day after drug therapy was begun and two of our cases presented symptoms of calculus two days after the drug was started.

In passing, although microscopic hematuria may not be indicative of calculi formation since this occurs in many individuals receiving the drug, its presence should be a reminder that vigilance be maintained, and with the first evidence of pain, gross hematuria, or oliguria, the drug must be discontinued at once and appropriate measures instituted.

A knowledge of important contraindications will likewise avoid misuse of the drug. Undetermined fever may be drug fever, as may occur with aspirin; pyrogenic fever, as may occur with blood transfusion, intravenous fluids, or foreign protein injections; or it may be due to dehydration. A secondary rise in temperature also may be due to the sulfonamide itself.

Localized walled off abscesses with toxemia are immune to the sulfonamide effect and still require surgical incision and drainage. Similarly, other inhibitors of sulfonamides including perhaps local novocaine, have been maintained.

Virus diseases in general, such as virus pneumonia, usually fail to respond to sulfonamides. If secondary invaders are present, the drug has value. If the drug is used prophylactically, the patient should be carefully observed. Specifically, in influenza and in the ordinary upper respiratory infection, very little therapeutic value is obtained from the sulfonamides. The old established therapy still deserves a trial in these cases.

A partial or complete obstruction of the ureter, as by calculus, stricture, stenosis, or a kink producing ureteral stasis, will render the urine in the renal pelvis more concentrated and stagnant, and this associated with infection will tend to produce an ideal situation for the deposit of the acetyl and free forms of the sulfonamides. In such cases sulfonamide is not to be given unless ureteral drainage is established and maintained.

In a history of previous allergy to the sulfonamides, subsequent dosage should be cautiously administered.

With this regime of fluids, alkalis, checking the urines including daily urinary output, and instructing the patient to report disturbing symptoms, the patient can be treated ambulatory if the disease is not confining. Other methods of control for various complications should be instituted accordingly and, of course, blood counts should be done at frequent intervals.

THERAPY OF PATIENTS WITH SULFANILAMIDE CALCULI

Under these circumstances, the drug must be discontinued at once and fluids forced orally and parenterally. Six of our patients recovered promptly under this regime. Intravenous or oral sodium lactate and sodium bicarbonate in appropriate doses, as indicated by the pH of the urine, should be administered to increase the solubility of the drug as well as combat the possible accompanying acidosis.

With complete anuria more drastic therapy is indicated and ureteral and pelvic lavage must be instituted either with sterile distilled water or bicarbonate solution since solubility of the drug is favored by increasing the pH of the solution. Six of the patients required such management.

Crystalline masses within the kidney pelvis and tubules which do not respond to the above regime may require surgery such as nephrotomy for removal, or in the toxic type, kidney decapsulation [54] may be indicated. General symptomatic and supportive therapy is mentioned in passing and is indicated as needed without further comment.

CASE REPORTS

Case 1.—Thirty-eight year old white male. Diagnosis: Influenza. Treated initially with 2 Gm. sulfadiazine, then 1 Gm. every four hours, a total of 13 Gms. in two days. Complained of oliguria for two days, lumbar pain with typical radiations, bilateral tenderness, and hematuria for one day, and anuria for ten hours. Urine: Acid, albumin (2 plus), gross and microscopic blood (4 plus). Blood: WBC 12,400, 94% neutrophils, NPN 25.8 mg., concentration 1.1 sulfathiazole and 2.0 sulfadiazine. X-ray: No dye in right kidney in fifty minutes; retrograde, negative. Cystoscopy: Right ureteral orifice has multiple ulcers, is edematous, No. 4 catheter inserted. Left ureter slightly ulcerated, No. 6 catheter inserted. Thera-

py: Irrigation of ureteral catheters. 2,000 cc. 5% glucose intravenously with sodium lactate. Comments: A relatively small dose of drug was given. The patient's fluid intake was insufficient.

Case 2.—Forty-six year old white male. Diagnosis: Upper respiratory infection and bronchitis. Treated with 1 Gm. sulfanilamide every four hours, a total of 42 Gm. being given in seven days. Complained of right lumbar pain with typical radiation and right flank tenderness for six days. Urine: Acid, essentially normal. Blood: 16,800 WBC, 76% neutrophils. X-ray: Pyelogram negative. Cystoscopy: Not done. Therapy: 1,000 cc. 5% glucose intravenously, oral fluids forced, alkalis. Comment: Patient developed a generalized rash four to five days after onset of sulfonamide administration. This had also occurrde in the past with previous use of sulfonamides. History of asthma and hay fever. The drug should have been discontinued with the onset of the rash, and adequate fluid and alkali given.

Case 3.—Fifty-year old white male. Diagnosis: Upper respiratory infection, influenza, and pneumonia. Treated with 1 Gm. sulfathiazole every four hours, a total of 80 Gm. given in fourteen days, then with 3 Gm. sulfamerazine repeated in four hours, a total of 86 Gm. drug in fifteen days. Complained of lumbar pain with typical radiations, bilateral tenderness, and oliguria for two days. Urine: Acid, albumin (1 plus). Blood: WBC 15,500, 81% neutrophils, concentration 27.0 mg. sulfamerazine per 100 cc. X-ray: Not done. Cystoscopy: Not done. Therapy: Catheterized twice daily, 1,000 cc. 5% glucose with calcium lactate intravenously; oral fluids forced, alkalis. Comment: Not given sufficient fluid and alkali. In therapy, sodium lactate is preferable to calcium since insoluble salts may form.

Case 4.—Thirty-eight year old white male. Diagnosis: Otitis media and sinusitis. Treated with 2 Gm. culfadiazine every three hours, a total of 38 Gm. given in four days. Complained of lumbar pain with typical radiations, bilateral tenderness and rigidity for four days, oliguria for two days, hematuria for one day, and anuria for sixty hours. Urine: Acid, pH 4.5, albumin (3 plus), 1 plus gross and 4 plus microscopic blood. Blood: WBC 12,700, 62% neutrophils, NPN 42.0 mg., concentration 8.4 sulfadiazine. X-ray: Upper poles of kidneys not visualized; no stones. Cystoscopy: Many small noncrystalline concrements in bladder. Impossible to pass catheter in either ureter, orifices occluded by crystalline particles. Therapy: Ureteral catheters irrigated, bladder irrigated, 1,000 cc. 5% glucose with 1/6 molar sodium lactate intravenously continuously until urine secreted. Comment: This man had been maintained on a high drug intake without sufficient fluids and alkali. A nephrostomy was contemplated if response had failed.

Case 5.—Forty-six year old white male. Diagnois: Influenza and pneumonia. Treated with 1 Gm. sulfadiazine every four hours, a total of 22 Gm. given in four days. Complained of lumbar pain with abdominal radiation and bilateral tenderness for three days, oliguria and hematuria for two days, and anuria for five and one-half hours. Urine: Alkaline, two days later acid with pH 4.5, two plus albumin, one plus grossand three plus microscopic blood. Blood: WBC 16,000, 92% neutrophils. X-ray: Pyelogram negative. Cystoscopy: Obstruction of left ureter, unable to pass catheter 1 cm., no function seen. Many light crystals. Therapy: Irrigation ureteral catheters; 1,000 cc. 10% glucose with 1/3 molar sodium lactate intravenously for three doses; oral fluids. Comment: This patient was treated for his kidney complication for two days, but still received insufficient fluid and alkali. Not until anuria developed, was he referred to the urologic service. Note that the urine was alkaline on admission which did not prevent calculi formation. Forced fluids and alkali must be continued at least four days after the drug is discontinued.

Case 6.—Thirty-one year old white female. Diagnosis: Salpingitis with peritonitis. Treated initially with 2 Gm. sulfathiazole then 1 Gm. every four hours, a total of 37 Gm. being given in seven days. Complained of lumbar pain with typical radiations and bilateral tenderness, rigidity, oliguria, and hematuria for one day, and anuria for twelve hours. Urine: Acid, one plus albumin, three plus microscopic blood. Blood: WBC 9,700, 73% neutrophils, sulfathiazole concentration varied from a trace of 1.3, 2.1, 3.0, 8.3. X-ray: Not done. Cystoscopy: Stricture of urethra, hyperacute cystitis. Urine from ureters concentrated, clear. Crystalline occlusion lower end ureters, catheterized with marked difficulty. Therapy: irrigation ureteral catheters, oral fluids forced. Comment: While under medical care, drug discontinued because of secondary rise in temperature. Backache

developed on the second day and anuria on the third day after the drug was stopped, illustrating fluid intake must be maintained. Note the low blood concentration. This patient was dehydrated and apparently ignored. In addition, a urethral stricture was present.

Case 7.—Thirty-four year old white female. Diagnosis: Sore throat. Treated with 2 Gm. sulfadiazine every three hours, a total of 55 Gm. given in seven days. Complained of lumbar pain with typical radiation, right flank tenderness, and hematuria for one day. Urine: Acid, trace of albumin, two plus gross and microscopic blood. X-ray: Good function in each kidney. Cystoscopy: Not done. Therapy: 1,000 cc. 10% glucose followed by 1,500 cc. 5% intravenously, alkali and fluid orally. Comment: Insufficient fluids had been administered with drug.

Case 8.—Three year old white female. Diagnosis: Influenza and pleurisy. Treated with ½ Gm. sulfathiazole every three hours for one day then ¼ Gm. every two hours, a total of 6 Gm. given in two days, then given 1 gr. sulfanilamide every two hours for two days increased to 2 gr. every two hours (35 gr. in six days), a total of 8 Gm. of the drug given in eight days. Complained of lumbar pain with typical radiations, bilateral tenderness, abdominal rigidity, and oliguria for three days, and anuria for sixteen hours. Urine: Acid, essentially normal. Blood: WBC 6,700, 69% neutrophils, NPN 36.0, sulfathiazole concentration 1.9. X-ray: Not done. Cystoscopy: Not done. Therapy: Oral fluids pushed. Comment: Because of fever and headache, the sulfonamide was stopped and anuria developed three days later. Note the low blood concentration and slight elevation of the NPN. The patient was dehydrated since he responded to oral fluids only. Sulfanilamide was substituted because an erroneous diagnosis of pyelitis was made after failure to respond to sulfathiazole.

Case 9.—Thirty year old white female. Diagnosis: Influenza and pleurisy. Treated with 1 Gm. sulfamerazine every four hours, a total of 6 Gm. given in two days. Complained of lumbar pain with typical radiations, right flank tenderness, oliguria for one day, and anuria for twelve hours. Urine: Alkaline, trace of albumin, two plus microscopic blood. Blood: WBC 9,600, 83% neutrophils. X-ray: Not done. Cystoscopy: Not done. Therapy: Intravenous glucose. Comment: Only 6 Gm. sulfamerazine was administered and anuria developed one day after the drug was discontinued. Sufficient fluid had not been given, either before or after the drug was stopped. Alkaline urine did not prevent symptoms.

Case 10.—Twenty-seven year old white male. Diagnosis: Gonorrhea. Treated with 1 Gm. sulfathiazole every four hours, reduced to 1 Gm. every six hours, a total of 67 Gm. given in twenty days. Complained of lumbar pain with typical radiations, bilateral tenderness, abdominal rigidity for four days, oliguria and hematuria for three days, and early anuria. Urine: Alkaline, one plus albumin. Blood: WBC 8,900, 64% neutrophils. X-ray: Pyelogram negative. Cystoscopy: Not done. Therapy: 1,000 cc. 5% glucose, and oral fluids forced. Comment: Note long course of therapy apparently not adequately supervised since patient hid fact from his wife that he had gonorrhea and took his treatment in secrecy. Urine was alkaline, but fluids were inadequate.

Case 11.—Fifty-five year old white female. Diagnosis: Influenza and pneumonia. Treated initially with 2 Gm. sulfahtiazole, then 1 Gm. every three hours, a total of 22 Gm. given in four days. Complained of lumbar pain with typical radiations, right flank tenderness, oliguria, and hematuria for two days, and anuria for nine hours. Urine: Acid, three plus albumin, three plus gross and microscopic blood. Blood: WBC 12,400, 78% neutrophils. X-ray: Not done. Cystoscopy: Clots, crystals, and 10 ounces bloody urine in bladder. Clot protruding from left ureter, with crystalline material. Right ureter plugged at orifice and both orifices broken into with a catheter. Ph of this urine 7.5. Therapy: 1,000 cc. 10% glucose with 1/5 molar sodium lactate, ureteral catheters irrigated, oral fluid and alkali forced. Comment: This patient developed anuria two days after his discharge from the hospital and the discontinuance of the drug. Unfortunately, patients are maintained on drug until they are discharged. It would be wiser to keep the patient in the hospital at least one day after the drug is stopped and force fluids or instruct the patient properly.

Case 12.—Sixty-three year old female. Diagnosis: Influenza and pneumonia. Treated initially with 2 Gm. sulfadiazine, then 1 Gm. every four hours, a total of 23 Gm. in four days; then treated with 3 Gm. sulfamerazine followed by 1 Gm. every four hours for a total of 50 Gm. in nine days. Total drug given was 73 Gm. in thirteen days.

Complained of lumbar pain with typical radiations, left flank tenderness, and oliguria for two days. Urine: Acid, essentially normal. Blood: WBC 7,000, 64% neutrophils, sulfadiazine concentration 14.5, 8.3, 1.6, and sulfamerazine concentration 8.1, 6.7, 4.3, 4.5. X-ray: Not done. Cystoscopy: Caruncle and stricture of urethra. Crystalline material in the bladder. Ureteral orifices patent but hard to pass left catheter and no drainage obtained from left kidney. PH of this urine 6.0. Therapy: Irrigation of ureteral catheters, intravenous fluids. Comment: This patient had a spreading type of bronchopneumonia, perhaps virus. Following urologic treatment she was again placed on sulfadiazine, but this time carefully supervised. It was calculated that she consumed ½ pound of drug in a forty-five day period without developing any complication because she was given adequate fluids. Whether the drug helped her overcome pneumonia is speculative but the interesting feature is that she was maintained continuously on the drug for forty-five days.

SUMMARY

A discussion of the renal complications produced by the sulfonamides has been presented. The mechanism of calculus formation is discussed together with the factors influencing this condition. Preventive measures are noted including adequate fluid intake, alkalinization, daily urine examination including pH and volume, and supervision of the patient. Contraindications to the use of the sulfonamides are discussed. A series of twelve cases reports of patients developing renal complications is included.

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NEED FOR PSYCHIATRISTS

"The most critical manpower shortage in the country today" is the present lack of trained psychiatrists. Thus declared Dr. Lawrence S. Kubie, Special Consultant to the Army Air Surgeon, in a recent address in New York City. According to Dr. Kubie, there is a need for twenty thousand trained psychiatrists, but there are only three thousand available. Furthermore, there are ten thousand psychiatric social workers needed and thousands of clinical psychologists, of whom there are only a few hundred available.

Mr. Thomas L. Stokes, prominent Scripps-Howard feature writer, recently devoted a column to this problem in which he supported the suggestions of Dr. Kubie and Dr. George Stevenson, Medical Director of the National Committee for Mental Hygiene, that the "G. I. Bill of Rights" be amended to provide for post-graduate courses for medical men in service. Mr. Stokes pointed out that this would be largely on-the-job training, so that men could assist with psychiatric work in government hospitals and elsewhere while training.

As Dr. Kubie has pointed out, the cost to the government of keeping a neuropsychiatric case for life is estimated at between $30,000 and $40,000. Hence, if a doctor educated by the government at a cost of $25,000 could salvage only one of these cases and restore the patient to society, the government would gain in the end, and so would society.—*New York Medicine.*

A QUICK AND SIMPLE TREATMENT OF LOW BACK PAIN BASED ON A NEW CONCEPTION OF ITS GENESIS*

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The uncertainty prevailing in the discussions of the low back problem seems to derive chiefly from the more or less silent consensus among the authors that possibly there is more than one disease entity comprised in one term.

The description of the disc protrusion by Mixter and Barr, the assumption and differentiation of reflex pain by Steindler, the demonstration of congenital anomalies in the sacral region by Badgley, Willis and others, the emphasizing of the role of the shrinkage of the fascia by Ober, and many other works in reality try to classify low back pain in several different disease entities requiring different etiological explanation and different therapy.

The latter trend is most conspicuous in the attempt of most authors to advance a definite symptomatology of the disc protrusion with the avowed purpose of establishing a definite indication for surgical intervention. In spite of the assertion of several authors that the diagnosis of the disc protrusion can invariably be established (Dandy; Love and Walsh), the enumeration of the diagnostic signs shows that there is only a small group of low back cases, which *at least at times* during their chronic, recurring course, would not manifest the same signs in rather violent form. The latter statement points to the possibility that even the disc protrusion is not a definite entity in itself, but is part and parcel of the low back complex presumably caused by the same factors which bring about the rest of the pathology.

Reviewing all forms of low back cases, one common objective sign appears to be present almost invariably around which the remaining symptomatology is grouped as around a common, mechanical, etiological center. *The common finding is the decrease or disappearance of the lumbar lordosis replaced either by a straight or by a kyphotic lumbar curve.*

Accordingly it would appear to consider *low back pain* as one nosological entity, *a term designating in this treatise the entire low back complex* ranging from lumbago-sciatica, etc., to the protruded intervertebral disc. Likewise with the common diagnostic and etiological features it would seem that a common therapy could be developed to apply in all types of cases of this syndrome. We shall try to demonstrate that not only is the disappearance of lumbar lordosis pathognomic for the condition, but that it plays a very large role in the pathogensis of low back pain. Besides the straightening of the lumbar lordosis the author also found in many instances a *lumbodorsal kyphosis* superincumbent the straight lumbar region, involving a variable number of vertebrae, and continuous with the physiological dorsal kyphosis (*Lumbar shift of the dorsal kyphosis*). On grounds of this conception not only was there found a sound explanation of the symptomatology but also a new method of treatment was evolved which is simpler, quicker, and more efficacious than any hitherto tried.

Definite radiological signs, to be discussed in the next report, reveal that the disappearance of lumbar lordosis is not the consequence of the low back condition, neither does it accompany the condition, but is *the primary factor* responsible for the major part of the pathology as well as for the symptomatology. Furthermore, the abandonment of the lumbar lordosis does not simply occur in the articulations but is connected with *rather intricate anteroposterior shifting of the vertebrae*, as will be demonstrated in the next report.

According to the anatomists the lumbar lordosis is a secondary lordosis caused by the erect position. Permanent reverse of the physiologically momentous lordosis is, in its final analysis, a *flexion contracture of the spine analogous* with the nonparalytic contractures of the extremities.

All signs and symptoms of low back pain accompany the straightening of the lumber spine. The erector muscles become spastic for several reasons. The act of conversion of the lumbar lordosis into kyphosis already under physiological conditions (forward bending) elicits the contraction; more important is the fact that the muscles react with tetanic contractions to the continuous forcible (passive) overstretching of their fibers. Fnally, attempts of sudden bending, twisting or turning of the trunk, preceding most low back attacks, may be connected with tears and bleeding in the musculoligamentous apparatus since such attempts endeavor to overcome an established kyphotic state main-

*From Williamson Memorial Hospital.

tained by shrunken passive and spastic active structcres. There is a *marked spasm also in the lateral abdominal* and perhaps in the quadratus lumborum muscles. These are the muscles which not only initiate the flexion contracture of the spine but also play an important part in its maintenance, a role in which they are second only to the force of gravitation. *The spasm of the lateral abdominals and quadratus lumborum was found by the author to be one of the most initial and most frequent signs of low back pain.* The spine is kept straight by the spastic antagonistic muscle groups which manifest severe pain at any attempt to move the spine *in either direction* (bending, stretching, twisting) against their resistance.

The radiation of pain along the ischiac nerve depends on many factors, the most important being *whether and to what extent the fourth and fifth lumbar vertebrae do participate in the creation of the straight lumbar spine*, i. e., to what extent they had abandoned their physiological lordosis. The lumbar portion of the sciatic nerve leaves the spine at the 4th and 5th intervertebral foramina. The intervertebral foramina, whence the nerve emerges, are in the posterolateral aspect of the vertebrae, *where the 4th and 5th lumbar vertebrae are closest to each other forming physiologically the sharpest bend in the lordotic curve.* Thus, when these two vertebrae are separated from each other, while the lumbar lordosis converts into kyphosis, in their posterior aspects the roots of the sciatic nerve undergo forcible stretching to the amount of the separation of the vertebrae. One has to take into consideration that the nerve has little chance of compensating for its stretching by elongation or slipping, being embedded in mighty muscle masses which are the more resistant the more suddenly stretching takes place, and the less elastic the muscle and fascial tissues are (advanced age). Further, as the nerve is the longest nerve of the human body and such an arrest of its slipping can originate at any place from the lumbar spine to the sole of the foot, the ischiac pain in the low back complex is rather natural.

Most diagnostic signs of low back pain are chiefly based on the stretching of the nerve in its lumbar and pelvic position as pointed out also by others. *Any maneuver which is capable of subjecting the ventral, pelvic portion of the nerve to stretching will cause pain.* But the contrary is also true. *Any maneuver which is capable of relieving the stretching of the ventral, pelvic portion of the nerve will relieve the pain;* hence flexion of the pelvis in the hip or the knee, and plantar flexion of the foot are assumed by the patient.

The process of kyphosis which appears to be responsible for the pain, for the limitation of motion, for the muscle spasms, for the referred and radiating pain, seems to be responsible also for the protrusion of the discs, at least in the great majority of cases. While the lumbar spine abandons its lordosis the anterior portions of the discs become subject to *compression which may squeeze the disc and the nucleus pulposus backwards toward the spinal canal.* The more lordotic the segment the greater the compression which transforms lordosis into kyphosis. Hence the regular appearance of the disc protrusion in the most lordotic lower segment of the lumbar spine.

The phenomenon of the protrusion is greatly facilitated by the anatomy of the vertebrae and discs. According to Fick the posterior longitudinal ligament, unlike the anterior one, *is not a continuous band*, but is interrupted at each vertebra by the posterior aspect of the disc. The posterior ligament being rather a narrow strip, the posterior aspect of the disc has an insufficient protection. Furthermore, the bony ring covering the circumference of the vertebral body becomes markedly insignificant at the posterior aspect of the lumbar vertebrae. Since the bony rings forms the anchorage for the intervertebral disc (Haftepiphyse of Schmorl) the posterior aspect of the disc possesses a rather weak insertion. *The ever-increasing anterior compression traveling anteroposteriorly may tear open the weak posterior protection of the disc squeezing through the unlocked backdoor of the vertebral portions of the disc*, causing direct nerve pressure or even entirely blocking the spinal canal.

What is the origin of the straight lumbar spine? It will become rather simple to answer the question if we taken into consideration that there is no chronic symptom more widespread among the members of the human race after the fourth decade of life than low back pain; further, after the age of forty it concerns the majority of people engaged in occupations carried out in bending or sitting positions, and finally that a surprisingly large number of people are suffering from atacks of low back pain, not only those engaged in mining, in road construction and farming, but also many clerks and

surgeons below the age of forty are found among its victims. This is not a mere coincidence. Rather it points clearly to the mechanical factor converting the lordotic spine into the kyphotic or straight one. *Bending compels the lumbar spine into true kyphosis, and sitting deprives it of its lordosis, straightening the lumbar curve.* Constant forward bending of miners, road workers, etc., by premature degeneration of these structures hastens the appearance of low back symptoms at an age when the elasticity of the discs and ligaments should be at their best. Sitting does cause low back symptoms, usually until the process of diminished elasticity, occurring around forty, contributes to the fixation of the straight lumbar spine.

As the majority of the human race make their living by stooping or sitting, the kyphotic contracture of the lumbar spine develops as the most widespread chronic disease.

It should be emphasized that the occupational factor alone is not sufficient to explain the loss of lumbar lordosis. *Muscular fixation of the spine during the work* either to increase the efficiency of the laborer or as a faulty habit is an additional harm. Bending, twisting, or turning of an articular system kept rigid by tetanic muscles during work represents the indispensable traumatic factor accounting for the features distinguishing the straight or kyphotic umbar spine from the simple bending of the trunk.

The kyphotic contracture is initiated by the lateral muscles whose spastic condition is one of the most invariably pathognomic features of low back pain. The maintenance of the straight lumbar spine is due chiefly to the force of gravitation which enables us to work in a stooping position or to sit bending over for hours without marked muscle fatigue. However, the consequence of keeping the spine in such posture for a voluntarily set period is that the entire spine tends to assume a kyphotic curve. *The result of this circumstance is that the dorsal kyphosis starts already in the lumbar segment. The lumbar shift of the dorsal kyphosis,* another pathognomic feature of low back pain, may reach the level of the fifth lumbar vertebra. In most instances of low back pain the dorsal kyphosis starts at the upper end of the lumbar spine superincumbent the straight lumbar segment. The lumbodorsal kyphosis as a manifestation of the lumbar shift is frequently a temporary feature disappearing during the treatment. Its disappearance clearly shows that it not only belongs to the pathology of low back pain but is one of the conspicuous traces in the trail of the genesis of the low back complex.

The symptoms of stretching of the ischiac nerve usually occur when the kyphotic trend gradually reaches the region of the fourth and fifth lumbar vertebrae. There are, however, cases, and this seems to apply also to the youngest age group suffering from the condition, which quite suddenly, in a true traumatic way, acquire their straight lumbar spine losing the lumbar lordosis to the lowermost segments with the accompanying sciatic pain, and perhaps disc protrusion. Hemorrhages, tear of the ligaments and muscles are in the wake of such a strenuous, accelerated forward bending and twisting of the trunk.

The abandonment of the lumbar lordosis brings the lumbar spine into the state of marked instability as the author could demonstrate elsewhere. In lumbar kyphosis the articular processes of the upper vertebra are drawn from their articular sheaths formed by the articular processes of the next lower vertebra and the vertebrae obtain plenty of space for lateral deviation and rotation as anybody may find out for himself by bending over. The increased rotability and lateral mobility lead to friction between the articular surfaces ending in traumatic arthritis.

But also the development of scoliosis becomes possible, though the ischiac scoliosis is rather a consequence of the mostly *asymmetric lumbar kyphosis,* and of the tilting of the pelvis following the voluntary bending of hip and knee *on one side* to decrease the traction of the ischiac nerve as already pointed out.

The foregoing trend of thought leads to *a simple and quick treatment* of the condition by *reestablishing as much lumbar lordosis as feasible* by nontraumatizing means.

The treatment based on the outlined conception of the pathogenesis of the disease has two requirements besides its feasibility: *First it has to reestablish the lumbar lordosis without trauma; second, it has to release the compression of the discs,* relieving the muscle spasm by removing the body from the influence of gravity.

In order to determine the position best complying with the above requirements rest in bed in supine position by healthy persons was tried after which

they were examined by x-ray. Such an examination clearly demonstrates that *the lumbar spine is in relative or absolute kyphosis while one is lying horizontally on his back. Sitting and lying horizontally on the back tend alike to efface the lumber lordosis.* Lumbar kyphosis in the supine position also accounts for the failure of simple bed rest in the treatment of low back pain with or without traction, in most cases with nervous phenomena. Traction in any position is liable to increase the spasm of the already tetanic muscles, hence it ought to be discarded as a means of relieving the low back attack altogether.

The only position which complies with the requirements deduced from the analysis of the pathology *is lying in a bed the foot of which is raised,* i. e., the patient's head is lower than his legs. *The x-ray examination taken in this position shows that the lumbar spine resumes its lordosis and the intervertebral spaces become visibly distended.* A few hours after the patient is put in the slanting bed, preferably with a board beneath the mattress, the pain decreases, and the muscle spasm diminishes, as is demonstrated by the markedly diminished tenderness of the lateral abdominal muscles.

The routine of the treatment *in more than 60 cases* was as follows: After the clinical and x-ray examination the patients were placed in beds whose front legs were raised 12 to 20 inches. Beneath the mattress a board was placed. The patients retained a small cushion for their heads if necessary and were kept in bed day and night. Daily for twenty minutes a heat cradle was applied. The duration of the treatment varied from seven to fourteen days, but in no case exceeded a fortnight.

Three-fourths of the patients treated had radiating pain in the groin or in the legs. About half of the cases with radiating pain complained of numbness in the personal area. About the same number had increased pain while coughing, sneezing, or defecating. AbouSt one-fifth of the patients showed a diminished or missing Achilles reflex on one side.

Each case of low back pain, regardless of history, clinical and x-ray findings was treated in a similar manner while in the hospital. Before discharge, however, *the cases with marked ischiac phenomena were put in a short plaster jacket applied in extreme hyperextension* for about two weeks.

Generally the pain diminished very soon after the patients went to bed. After the first twenty-four hours the spasm of the lateral abdominal muscles markedly lessened. After two or three days the spine regained much of its mobility while the patient was examined in the prone position. In most instances after the fourth day the pain had ceased to a great extent. The patients were encouraged to perform hyperextension exercises clutching their hands in their backs in the prone position. By that time the spine showed greatly increased mobility. By the end of the first week all signs but the numbness had usually subsided. The radiation of the pain and the numbness ceased in several cases only weeks after the removal of the plaster jacket. Several patients did not tolerate any form of heat. It appears that heat increases pain in true neuritis while it relieves pain in neuralgic and myalgic conditions.

Most patients were miners, but there were also factory workers, farmers, clerks, etc., among them.

The x-ray examination following the treatment showed increased lumbar lordosis and the disappearance of the lumbodorsal kyphosis, i.e., the lumbar shift of the dorsal kyphosis had disappeared with the symptoms. The spasm of the lateral abdominal muscles was the first o give way. In may cases the local sacral pain outlasted the rest of the symptoms, being the last to yield. In a few instances even the absent reflex had returned. Both the position with the lowered head and the exercises were well tolerated.

As many of the cases revealed lipping of the vertebrae on the x-ray picture (some of them had very extensive, bulky osteophytes), it was surprising to observe that even in these cases the mobility of the spine improved markedly. This proves, too, that the x-ray findings are far from being identical with the functional status of the articulations.

To the author's knowledge all patients returned to their former occupations. This gives a partial answer to the question concerning the *recurrence* of symptoms. In the past nine months since the treatment has been applied on a larger scale the recurrence of symptoms has been rare. But the authors feel that the recurrence of symptoms could be avoided only by the temporary change of occupation and the continuation of resting in the decompression, lordotic position, at least for the night, in a bed with elevated front legs.

Most of the therapeutic measures used in the treatment of low back pain are directed against the atack. Partly the same holds true for the treatment advanced. *The release of the muscles from their accustomed duty performed at the requirements of gravitation is the main factor of the therapy in combatting pain,* and it is definitely directed against the attack of low back pain. However, the decompression and the reestablishment of lumbar lordosis are measures directed against the main pathology. One of the reasons for having rarely observed recurrences seems to be that the *increase of lumbar lordosis combined with the disc decompression and muscle relaxation are directed against the main causative factors of the disease in a true etiological sense of the word.*

The *direct effect on the stretched and inflamed nervous elements and on the spinal cord* itself of rest in a bed with elevated front legs can be only guessed by analogy. The author obtained startling results in a number of two to three-year-old cases of infantile paralysis in restoring to function a great number of apparently totally disabled muscles. The treatment was based on four principles, one of which was the decompression position advanced in this treatise, maintained for the entire duration of the treatment. There is no doubt in the author's mind that without the position the results would not have been attainable. (Mehod not yet published).

In cases with sitting or standing occupation, as with electricians, clerks, housewives, etc., a sacroiliac belt or a short brace was applied, to be worn for a limited period. In stooping occupations (miners, etc.) such a measure appeared to be of no avail. In all cases, however, mild exercises several times daily for a few minutes consisting of slow bending, twisting, and turning of the trunk were recommended.

The author feels that the method advanced being simple and comfortable, should be attempted before decision is made on any other type of treatment. There is no doubt that operative intervention will be unavoidable in certain instances. That there are low back symptoms (static low back pain in flatfoot, etc.) with or without ischiac involvement, with or without disc protrusions, due to a mechanism different from that advanced in this paper, as the author pointed out elsewhere, ought to be borne in mind.

Before summing up, it should be mentioned that there are conditions resembling low back pain with an *increased lordosis* of the lumbar spine. These patients owe their discomfort to the circumstance that they are forced to maintain *hyperextension* of the lumbar spine without having means to release it except for the periods of rest in bed. These cases of lordotic contracture (congenital dislocation of the hip, spondylolisthesis, anklylosis of the hip joint, hanging or big abdomen, pregnancy, gynecological back pain, etc.) as well as the static low back pain (flatfoot, etc.) have only transient symptoms, yielding to bed rest, to adequate treatment of their cause and to suitable appliances.

SUMMARY

The pathogenesis of the law back complex (lumbago, sciatica, protruded disc) is explained on the ground of a primary lumbar kyphosis, a straight lumbar spine preceding all signs and symptoms. The reverse of lumbar lordosis is caused by stooping and sitting occupations. Among the signs accompanying the disappearance of lumbar lordosis attention is called to the spasm of the lateral abdominal muscles and to the lumbar shift of the dorsal kyphosis. In more than 60 cases complete relief from the local and nervous symptoms could be obtained by putting the patient in a bed, the front legs of which were elevated from 12 to 20 inches for from seven to fourteen days. Recurrences were rare and easily handled by the same method. In cases with severe nervous symptoms a short plaster jacket was applied in hyperextension for another two weeks. All patients returned to their former occupations.

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A PLAN FOR THE MEDICAL INDIGENT*

By JAMES R. MILLER, M. D.,
Hartford, Connecticut.

It has been suggested in some quarters that organized medicine is without a program, and while it is evident that "Social Planners" are not satisfied with the suggestions which have come from organized medicine, there is still a strong case in favor of building on what we have found to be reasonably satisfactory and at the same time experimenting with some of the newer techniques of providing medical care.

It is indeed doubtful whether the "Social Planners" will be satisfied with anything short of a revolution. Hayek in his recent book, "The Road to Serfdom" has pointed out that "the question is no longer how we can make the best use of the spontaneous forces found in a free society. We have in effect undertaken to dispense with the forces which produced unforseen results and to replace the impersonal and anonymous mechanisms of the market by collective and 'conscious' direction of all social forces to deliberately chosen goals."

The arguments for the extension of government control over medical care may be considered under two headings: Those concerned with preventive medicine and those concerned with curative medicine, but recognizing that the line between these cannot be sharply drawn, it can be stated that organized medicine believes in the development to the limit of their usefulness of methods of preventive medicine and is enthusiastically in favor of a National Department of Health. Provisions for such a department of health have been made in H. R. 1391, introduced in the present Congress by Representative Miller of Nebraska. In the field of curative medicine, however, there is a difference of opinion. The "Social Planners" have faith in the ability of government to direct and control a system of distributing medical care while organized medicine doubts that a high quality of medical care can be maintained under this pattern.

There is a strong and natural desire to provide medical care for those who cannot afford to purchase it, but the average citizen is apt to forget that society has already accepted the duty of providing the indigent with medical care along with food, clothing, and shelter. If the needs of this group are not adequately met, it is the fault of orgasized society and not of organized medicine, for the medical care of a large portion of it is already given without charge by the medical profession. It is precisely in this area that there is room for improvement in care as well as compensation.

It is not within the scope of this paper to propose a broad plan for the health of the nation. The suggestions which are here offered are concerned with the methods of providing care to the "medical indigents." These are defined as individuals who do not need public assistance to pay for the expenses of ordinary sickness, but who are unable to meet the expense of major illness without great hardship.

Nicholas Murray Butler once remarked, "the man with a plan, however much we may dislike it, has a vast advantage over the group sauntering down the roadway of life complaining of the economic weather and wondering when the rain is going to stop."

THE PLAN

1. That medical indigency should be defined by law.

2. That the costs of illness above a level to be determined should not be met by tax funds in the case of medical indigents who meet the following requirements:

(a) The individual and his family should be covered by insurance against the costs of hospitalization and medical care in a manner and to a degree satisfactory to the administering state agency.

(b) The individual should present evidence that the costs of illness in any one year for his family have exceeded 5 per cent of the family income over and above the benefits received from insurance. The costs of illness should be calculated on the basis of hospital rates and of fee schedules which prevail in the insurance coverage.

3. Payment by the state should be made directly to the creditors and should protect the individual and his family from further obligation for these services.

4. Payments on behalf of the individual and his family should be made without prejudice but with the expectation of repayment. It is suggested that no interest should be charged if repayment is made within five years. Thereafter a rate of interest to be determined should be charged, and unpaid loans should be a preferred claim against the estate of the individual.

*Published concurrently with the Connecticut State Medical Journal.

According to testimony given at the Pepper Committee hearings in September, 1944, by Robert Lamb, representing the United Steel Workers, and based on a study of 1,000 steel worker families, it was found that in the group of families having an income of $2,000 to $3,000, 2 per cent of the families had outlays of more than $500 in a year and an additional 10 per cent had outlays of $200 to $500 in a year for medical services.

For the purposes of our consideration, even though it is a patent oversimplication of the problem, let us grant that the money paid out for medical services by these families was well spent and that it represented an answer to their medical needs. Let us further grant that the figures represent approximately the situation for the group of "medical indigents." If these assumptions have any validity, it would appear that the present types of insurance coverage for hospitalization, plus the rapidly expanding prepaid medical plans, would take care of a large part of the needs of all but the 2 per cent of these families whose expenses ran in excess of $500 and perhaps one-half of the next group who paid out from $200 to $500.

Critics of the plan which I have suggested will immediately point out that conditions vary widely in various states, not only in the prevalence of disease and the needs for medical care, but also in the economic ability of the citizens to meet these needs. Local conditions will modify the plan.

Objections will also be made on the ground that the plan is merely a subsidy and leaves totally out of consideration the need for improving the quality of medical care. This is granted. It would be well, however, to bear in mind what Simmons and Sinai once said: "No Health Insurance law has as yet been formulated primarily as a health measure, and it is doubtful if any such laws are being administered with health care as a dominant purpose. All were enacted to meet the problem of poverty in time of sickness, and the treatment of disease has always been secondary to the relief of poverty. All systems are not insurance but subsidies."

Experience in underwriting insurance risks of many kinds has shown that minor losses are frequent but presumably can be borne without hardship by the insured. It is expensive to cover all small claims, for in the aggregate they assume large proportions. Small claims also lend themselves to abuses not only by the claimant but on the part of the whole system which finds it more expedient to settle a claim on the basis of its nuisance value and to get rid of the claim lest the cost of administration become prohibitive. On the other hand, serious losses, even though they are individually large, are infrequent and are properly the field for the application of the insurance principle.

The present plan attempts to make use of three well known features of commercial insurance.

1. The "deductible clause" or the "waiting period."
2. The reinsurance of large risks.
3. The feature of co-insurance.

The "deductible clause" or the "waiting period" are devices which are used to eliminate small claims so that the premiums charged for coverage of serious losses can be kept at a low level. The analogy to reinsurance is self-explanatory and the co-insurance feature recognizes the fact that if the insured himself participates in some of the loss, he is more apt to guard against its occurrence.

Hospitalization insurance which is rapidly being extended to cover a large portion of the population falls short of its full capacity for social welfare in that it pays on small claims which could not possibly be regarded as a back breaking burden for most of the insured. It has been calculated that a modest payment by all patients for the first week of hospitalization would enable the funds to insure limitless hospitalization for those who need it most. This, indeed, would be a great social service. The present pattern, however, is so firmly established that there is little hope of changing it, and it may also be observed that any substantial payment for use would materially reduce the attractiveness of hospitalization insurance from the sales point of view.

If insurance plans are to be conducted on a sound financial basis, it is necessary to establish limits to the amounts that will be paid, for the insurance funds themeslves are not limitless. The state is supposed to be the only possessor of a bottomless purse, though it must not be forgotten that the depth of the public purse is limited by the willingness of the people to pay taxes.

The plan which I have suggested will not work unless a large portion of the "medical indigents" are covered by insurance. The purchase of such insurance should therefore be encouraged by government, labor, and industry, and perhaps methods should be used to make such purchase easy for any who find it difficult. Ways should be found for

covering individuals who are not engaged in large industrial enterprises. Farmers, storekeepers, domestic servants, and others should be covered in town or county groups provided certain percentages of the availables take the insurance.

Those who refuse to protect themselves against the minor costs of sickness by the relatively inexpensive insurance method could still pay their own way up to the specified 5 per cent of the family income that was suggested in the plan, or if they were unable to do this, they would be cared for by public assistance under the law as soon as their distress is great enough for them to qualify.

Some attempts to keep the individual off the public assistance rolls have been made by state hospitals for the insane and tuberculous and by certain local welfare authorities, for government has an interest at this point. Expensive illness is one of the factors which forces families to accept public assistance, and if they can be kept on their own feet, much of the loan fund can be recovered. My suggestion is, therefore, to extend this practice and give it wider application.

This plan fits exactly into the requirements for an ordered service in medicine, so well stated by Lord Dawson of Penn, "I submit that such services must be something which suits the habits of thought of our people and should evolve from what already exists." And he points out that "There are few callings in which there is so big a gap between routine and the best work as in medicine, and no profession needs to be so elastic in its government if it is to be dynamic, not static * * * It is here that medical planning is up against the the crucial difficulty, in that it requires collectivism for its fabric and individualism for human relationship. And individualism will not flourish easily within the rigid boundaries of a state service, but needs the freer atmosphere which belongs to the voluntary hospital tradition."

The suggested plan is given in its broadest outlines. It is admittedly incomplete. It does not answer many questions of administration and necessary changes in the law, but it does present a thesis that the state should underwrite the excessive cost of illness by making use of available facilities in a manner which will tend to encourage the individual citizen to provide himself with health protection and as a co-insurer to assume some of the costs of illness for which he is often partly responsible.

Tuberculosis Abstracts

Furnished Through the Courtesy of The West Virginia Tuberculosis Association

A SPOT ON THE LUNG

Joseph Conrad once said, "A word carries far —very far—deals destruction through time as the bullets go flying through space." Medicine has a few such words. Too often these are used when a serious or potentially serious condition must be explained to an apprehensive patient. When words treacherously lull either the patient or the physician into a false sense of security, then words may ultimately maim or destroy as surely as if they were bullets.

It is futile to search in dictionaries or medical text-books for a definition of the term "a spot on the lung." But the term is being used with great frequency by physicians, nurses, and laymen alike. If this term is subjected to scrutiny, it is found that it may mean anything and everything that produces either a shadow or an era of decreased density in a chest roentgenogram or anything and everything that causes abnormal physical signs over the lungs. If, then, this expression has no meaning that cannot be stated more precisely in other terms, it remains to be found out why it is being used. If this is one of the terms that does not express a definite meaning, does it possibly obscure a meaning?

Nobody who has searchingly studied the histories of patients with pulmonary disease can doubt that the real function of the phrase, "a spot on the lung," is to cloud the facts. It is a cloak for a great variety of pulmonary diseases, a protective screen for the inability or unwillingness of the physician to arrive at a diagnosis acceptable to himeslf, a disguise for a bitter truth that the physician hesitates to tell the patient, an escape for the patient who tries to elude further diagnostic work and necessary treatment . After all, one does not die of "a spot on the lung," but one can die of bronchial carcinoma and one might die of pulmonary tuberculosis . Along with much other evasive, medical double-talk, "a spot on the lung," is a verbal mechanism of escape from reality. In the same category belongs the term "a touch of tuberculosis" and, improperly applied, "nothing but a little thickened pleura."

No physician needs to be told that "a spot on the lung" is no diagnosis. He realizes that it is evidence, on the one hand, of healed disease which calls neither for treatment nor for alarming its bearer, or, on the other, of active disease in need of treatment. The physician sometimes uses the term in patients in whom he has failed to establish, with a certainty that carries conviction for himself, the difference between active disease and obsolete scar. "A spot on the lung" has a pleasantly innocent sound. It lulls into inertia and indifference whatever doubts or curiosity the patient, and, even in some cases, the doctor may have. But still it is, for the physician, a mental reservation. It seems to beckon as a safe place to stand if "a spot on the lung" later turns out to be carcinoma, tuberculosis, or bronchiectasis.

Admittedly, this judgment may be harsh. But I dare say that it will be resented only by those who, with the instrumentality of this ambiguous term, neglect their obligation of persevering until "a spot on the lung" has been accurately diagnosed. No person need be told that he has "a spot on the lung." If the condition is as clinically insignificant as the term suggests, the patient should be told that he has a scar from a previous tuberculosis infection —one that needs an occasional check-up or one that needs no further observation. Or when the diagnosis is certain, the patient should be told that his lungs are normal. For, while "a spot on the lung" is often the obscured beginnings of destructive disease, it is, in other cases, the starting point for tuberculophobia and anxiety neuroses, conditions that are no less crippling and hardly more easily curable than tuberculosis itself.

But, though every reflecting physician knows that "a spot on the lung" is a meaningless and dangerous term, the utter convenience of the expression—and others like it—militates against their prompt extinction. Past experience justifies a pessimistic outlook. No amount and intensity of medical education are likely to eliminate entirely the term from medical parlance. Medical education however, is being overtaken by the information that the public, including the prospective patient, is acquiring. People are learning to realize fully the confusing ambiguity of the term, they are beginning to refuse its acceptance just as an enlightened consumer protests against ambiguous and misleading labels on packaged goods. And the comparison is eminently proper: for all intents and purposes, "a spot on the lung" *is* ambiguous and misleading labeling.

It is high time for the medical and nursing professions and everyone engaged in tuberculosis work to bury a medical term that has quite literally buried so many patients.

A Spot on the Lung, Max Pinner, M. D., The NTA Bulletin, January, 1945.

CANCER OF THE LIP

Our medical journals and textbooks are constantly publishing photographs of advanced malignancies of the lip with metastases. Heroic and valuable surgical and radiologic procedures are accomplishing excellent results in some of these cases, but too often even these radical procedures are ineffective. Remember, the growth begins in a single cell, then spreads to two cells, then to four cells, in geometric ratio. Isn't the answer rather obvious?

Physicians should pause, while treating a nose or throat for a common cold, to observe any small innocent growth on the lip and consider that it might represent an actual cancer which as yet has involved only a very small group of cells. It is that time, and only then, that cancer is easily curable and a comparatively simple condition to treat. No highly specialized instrument or complicated diagnostic procedures are needed to treat an early localized growth. An alert anticipatory observation with adequate surgical or radiologic procedures is all that is required to make cancer of the lip a rare rather than a common disease.—N. Y. L. in *Pennsylvania Medical Journal.*

"PRECANCEROUS" CONDITIONS

Various diseases and abnormalities are frequently the forerunners of cancer. For example, chronic cystic mastitis in women means increased liability to the development of breast cancer; polyps, which are benign tumors, are prone to become malignant when they occur in the stomach, intestine, or rectum. On the skin, the dry wrinkles often seen in farmers and sailors, sebaceous cysts or wens, scars resulting from burns and a type of flat brown or gray wart seen in elderly people are the most common precancerous conditions. There is also a relationship between syphilis and certain forms of cancer.—M. L. Levin, M. D., as reported in *Health News.*

The President's Page

Are we, as members of the West Virginia State Medical Association, aware of the responsibility that has been placed upon us? The citizens of our state, through their respective senators and delegates, have, in effect, placed the medical direction of our state eleemosynary institutions in our trust. We asked for it. We have it. What are we going to do with it?

The members of the component medical societies elect delegates to the State Medical Association's House of Delegates. These delegates, in turn, elect the Councillors, who constitute the Council of the West Virginia State Medical Association. The members of the Council report to the Governor concerning the qualifications and suitability of proposed appointees to the Public Health Council. And, finally, the Public Health Council reports to the Governor concerning the qualifications and suitability of appointees proposed as medical heads of our state emergency, tuberculosis, and mental institutions.

As members of component medical societies, we have a very definite responsibility. We cannot jeopardize our standing by neglecting to elect as members of the Council the very best qualified doctors available for the offices to be filled.

"Let us have faith that right makes might and in that faith let us to the end dare to do our duty as we understand it."—A. Lincoln.

Thomas R. Harris

President.

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A GOOD LAW

Of the several bills sponsored or indorsed by the State Medical Association and the State Health Department and passed at the recent session of the Legislature, H. B. 9, providing for a complete serological test of pregnant women for syphilis, deserves special comment.

This bill provides that every pregnant woman residing in West Virginia shall have a serological test for syphilis. The test may be made at the state laboratory without charge, or by any approved laboratory. The blood specimen must be taken as soon as the woman consults the physician and he finds that she is pregnant. In case the patient is in labor at the first consultation the specimen of blood must be obtained within ten days following delivery.

The bill also provides that "upon request, it shall be the duty of county and district health officers to draw blood specimens from pregnant women for performing thereon a test for syphilis." Where there are no district or county health officers available, the State Health Department is to assume responsibility for obtaining the blood specimen. Physicians reporting births and still-births must state on each certificate whether a blood test for syphilis was performed, but in no event is the result of the test to be stated on the certificate. Failure to observe this law entails prosecution for a misdemeanor and on conviction a fine of from ten to fifty dollars.

It is obvious that this law can be expected to accomplish an infinite amount of good. It has long been the practice of obstetrical specialists to run routine Wasserman tests upon their patients immediately after the first consultation. The discovery of syphilis in the most unexpected places amply justifies the practice, and the public has learned to expect and often demand it.

It is not to be expected that this bill will eradicate congenital syphilis. However, it has been abundantly proved by clinical practice that the pregnant woman found to be syphilitic before the middle of pregnancy, and treated throughout the remainder of her pregnancy, may confidently expect to bear a healthy child. The law does not provide that pregnant women must consult a physician early in pregnancy, consequently the efforts to teach them to consult a physician early must be redoubled. We can expect the observance of this law to cut down immeasurably the occurrance of one of the most tragic events in modern civilization, the birth of a syphilitic child. The results from prophylaxis against ophthalmia neonatorum abundantly justify this additional prophylactic examination.

The Legislature, the State Medical Association, and the State Health Department are to be congratulated on this action in the public interest.

OUR CANCER PROBLEM

April is the month in which the American Cancer Society puts on its drive for cancer control. This year the nation-wide financial goal is set at five million dollars, most of which will be used in research. The campaign throughout the nation is under the direction of Mr. Eric Johnston (the president of the United States Chamber of Commerce), who is chairman of the executive council of the American Cancer Society. While definite state quotas have not been set, our state's share will be approximately $50,000, a sum which should readily be realized.

This country has been slow in grasping the idea that cancer control is a public health problem, certainly in its educational aspects. Thus far only a small minority of the states have adopted cancer control programs as governmental functions. Our own state is one of these forward looking common-

wealths and elsewhere in this issue we are publishing Dr. Gerhardt's resume of what has been accomplished to date.

While all physicians have for years been aware of the fact that cancer is on the increase, most of us will be astounded at the very rapid increase in the death rate in West Virginia during the last decade. When 1933 and 1943 are compared, the crude mortality figures show an increase of 33% for the ten-year period, a truly alarming figure. When our crude statistics are converted into terms of rate per 100,000 population, the increase is found to be approximately 40%! The reasons for this enormous increase are not, in the present state of our knowledge, entirely clear. It is true that diagnosis is becoming a more exact science and, as a result, deaths are now recognized as due to cancer which formerly were attributed to other disease conditions. Also, due to better hygiene, better health education, and better medical care, the average duration of life has been enormously lengthened since the turn of the century, and in fact is still materially increasing, so that a greater percentage of the population lives to the so-called "cancer age." But despite these facts, there must be an overall marked increase in cancer *per se*.

Gradually a better knowledge of cancer is being evolved. During only the last few years have we realized that half of our cancer victims, as shown by the crude mortality figures, have passed the sixty-fifth birthday. Likewise only within the same time have we realized that the reason the frequency of cancer increases as the attained age is not the age change in the tissue of the individual, but the fact that the carcinogen responsible for the neoplastic development in a given individual has had a longer time in which to act upon the tissues of that individual. Some of the outstanding developments in recent cancer research are: (1) The production of cancer in vitro; (2) Successful heterotransplantation; (3) The discovery of the milk factor; (4) The realization that a single trauma may result in malignancy; (5) The discovery of the carconogenic effects of light; and (6) The hormonal control of some types of cancer, notably as relates to the prostate.

Sometimes we realize better the magnitude of a problem if we reduce it to terms of commonplace thinking. Some such presentation of the cancer problem shows a cancer death every six hours in West Virginia and one every three minutes in continental United States. We are horrified at the awful death rate in the battle of Iwo Jima. Yet twice as many people died of cancer in the United States during the first three days of that battle as were actually killed in action there during the same length of time. If we accept the usual estimate of three surviving cancer sufferers at the end of the year for each death during the year, 6,500 West Virginians are cancer victims every year and there are a hundred times as many in continental United States as in West Virginia.

Here is an enemy whose warfare is truly global. His attack is more relentless than the iron heel of the ruthless Nazi and more stealthy than the sneaking myrmidon of the Mikado. Success in this war requires also a D-day before we can expect a V-day. Truly our cancer problem merits serious attention (and a worthwhile donation) from each and every one of us.

A PROGRESSIVE STEP

The Interim Committee which will be appointed under the provisions of H. C. R. 4, which has been adopted by the Legislature, will no doubt immediately make plans for a preliminary study of our many health problems. As the final report need not be submitted until January, 1947, there is sufficient time for an exhaustive study of this very important subject.

In adopting the resolution unanimously, the members of the Senate and House of Delegates demonstrated not only a willingness but a keen desire to provide full opportunity for this study to be made by a legislative committee with the aid of an advisory committee to be named by the Governor.

The matter of health is something that concerns everybody. No more important committee has ever been named in this state. No more responsible work has ever been undertaken. We have confidence in the ability of the members to submit a program that will be acceptable to all groups engaged in any way in work pertaining to the health of our people.

Once again we congratulate Governor Meadows and the members of the Legislature for the progressive step they have taken. We express to them deep appreciation for adopting a program that has the solid backing of the medical profession. We can assure them that they have the united support of the doctors of West Virginia in the important work that lies ahead.

THE LABOR VIEWPOINT

The following editorial printed in a recent issue of The Labor Union, a Dayton, Ohio, daily owned by local unions affiliated with the American Federation of Labor, is significant at this time when there is renewed agitation in Congress for the passage of some type of bill similar to the Wagner-Murray-Dingell bill (S. 1161):

At a time when medical science is performing seeming miracles in the discovery and application of new healing agents and operating techniques, and while thousands of American doctors are away in the armed forces serving America and all mankind, along comes this proposal to socialize medicine, as part of a broad scheme to provide "security" for the general public.

The Constitution of the United States gives every man the right to "his day in court," before he can be "counted out" of circulation with his fellow men, although he may be known to be a criminal. But is the medical profession of America being given its "day in court?"

Those members of the medical profession who are risking their own lives on the far-flung battle front of the world in behalf of your fathers, sons, or sweethearts—yes, and of thousands and thousands of the womanhood of America, since women are now in every branch of the service—do not have the time nor opportunity to protect themslves from this "stab-in-the-back," which the Wagner bill undoubtedly is.

* * *

The small force of physicians and doctors left in The United States to look after all the millions of war workers and to try to keep the nation in as healthy a condition as possible, are little if any better off than those outside our shores with regards to time to look after their own welfare and the protection of their profession.

Thus it behooves every worker to do all possible to protect his own interests and those of his doctor by fighting this dangerous Wagner Bill, which is Senate bill 1161.

RADIUM VS. COAL

Radium gives out 1,200,000 times as much energy as the same weight of coal burned with oxygen. Even if we had plenty, however, it would probably be a poor substitute for coal, since it releases energy only one-eightieth as rapidly. Nothing that scientists have been able to do has the slightest effect in speeding up the process.—Science Digest.

General News

CANCER CONTROL DIVISION REPORTS FOR FIRST NINE MONTHS' OPERATION

The crude death rate from cancer in West Virginia, as elsewhere in the United States, has shown an almost uninterrupted increase during recent years so that today, and for several years past, cancer ranks as the second cause of death. In 1943, the various forms of cancer accounted for 1,612 deaths in this state, and for 166,848 deaths in the United States.

Since cancer is not a reportable disease in West Virginia, we have no accurate means of determining its morbidity, and the mortality statistics therefore are the most conclusive figures available to us. According to Dr. Paul R. Gerhardt, director of the Division of Cancer Control, 1,208 people died of cancer in this state in 1933, but by 1943, this figure had increased to 1,612. The death rate from cancer per 100,000 population also shows an uninterrupted increase from 66.9 in 1933 to 93.2 in 1943.

Upon the basis of increasing interest and concern about cancer, particularly that shown by the physicians of the West Virginia State Medical Association, the legislature of 1943 enacted a law establishing a division of cancer control in the State Department of Health. Problems in initiating, developing, and staffing a program of this type during the war period occasioned some delay, so that the division did not actually become operative until July 1, 1944, when Doctor Gerhardt, then director of medical services for the Department of Public Assistance, accepted appointment as director.

Educational Program

In carrying out the lay educational program, the cooperation of the West Virginia Division of the Field Army of the American Cancer Society has been most helpful. This organization is conducting its annual campaign during the current month. It is impossible to estimate the number of persons who have been reached in the joint efforts of the Field Army and the cancer division through this educational approach.

The chief emphasis of the Division of Cancer Control has been in working with professional medical groups, because most cases of cancer are detected by the patient's private physician. Cancer discussions have been presented at meetings of 14 component societies of the West Virginia State Medical Association, aside from personal contacts with approximately 280 physicians.

Establishment of Clinics

The cancer law empowers the division to prescribe standard minimum requirements for the organization and conduct of cancer clinics throughout the state. This phase of the program is extremely difficult to develop during the war period because there is a shortage of physicians in most communities.

At present, regular weekly tumor clinics are held in Charleston, Huntington, Bluefield, Montgomery, Parkersburg and Clarksburg. A monthly clinic is held at Morgantown. Diagnostic and treatment facilities are also available at Wheeling, Philippi, Elkins, Fairmont, and Beckley. These clinics all operate under private auspices, and cancer patients are referred to them. The development of this type of clinic has been encouraged, rather than the setting up of so-called "state" clinics.

Inasmuch as 72% of West Virginia's population lives in rural areas, it is readily apparent that one of the chief problems in cancer care is to get the specialized diagnostic skill into the small community. Small local clinics, with services available from the cancer specialist, are therefore considered to be a practical avenue of approach to this situation.

Tissue Diagnostic Service

Free tissue diagnostic service for needy patients is prescribed by the law. The division has used privately owned laboratories at the general hospitals where pathologists are available.

Care of Needy Patients

The division is vested with authority to prescribe rules and regulations specifying the conditions under which needy cancer patients may receive financial aid. It is empowered to call upon the county departments of public assistance for such investigations as may be required, although patients need not qualify for public assistance or general relief as administered by the department of public assistance. Several of the county health departments have also been able to undertake responsibility for reference and follow-up service. A good many physicians have communicated directly with the division to request care for individual patients.

During the first seven months of the active treatment phase of the program, 293 cases have been under observation or service. When a needy case has been accepted for care the patient is referred to the nearest qualified physician for x-ray, radium, or surgical treatment. Authorizations are issued to the physician in each case, and the cost of hospital care is also met for needy cases. Full recognition should be accorded to the department of public assistance and the local county health units for their fine cooperation.

In carrying out the various phases of the law, 2,690 personal contacts have been made. This figure does not include any visits to or discussions with patients.

It should be mentioned that the division has been fortunate in having continuous cooperation and frequent consultation with the cancer committee of the West Virginia State Medical Association and the medical advisory committee to the cancer control division.

Although the cancer control division has been in operation less than eight months several problems are already obvious. One of the chief of these, according to Doctor Gerhardt, is the great need for more tumor diagnostic and treatment clinics. As pointed out above, this part of the program is difficult to expand during the war period. The division will cooperate and assist to the fullest extent in the development of more tumor clinics.

If the cancer control division is to aid the medical profession in the cancer problem, serious consideration should be given to the desirability of making cancer a reportable disease. Mortality statistics are not sufficient for conclusive studies of the cancer problem. The utilization of cancer reports for statistical or clinical investigations is practically unbounded.

These problems, however, are not insurmountable. The development of an adequate cancer control program for West Virginia will take time. We have made only a very modest beginning. The cooperation and the interest of the medical profession continues to give real impetus to the program. This should assure further progress in the development of a really adequate and complete cancer control program for West Virginia.

HEALTH DEPARTMENT APPOINTMENTS

Hi Eastland Steele, who has been with the bureau of vital statistics, Bureau of the Census, Washington, D. C., for nearly ten years, has been appointed by Dr. J. E. Offner, State Health Commissioner, as director of the division of vital statistics in the State Health Department to succeed Dr. M. B. Woodward, who rseigned to accept a place on the staff at the Washoe County General Hospital, Reno, Nevada. Mr. Steele served as acting dircetor of the division for a few months in 1941.

Dr. R. D. Smith, USPHS, of Los Angeles, California, has been appointed assistant director of the Bureau of Tuberculosis. For the past two years he has been with the division of tuberculosis control, United States Public Health Service, at Bethesda, Maryland. Just recently he completed a course in the school of public health at the University of Michigan.

Mr. T. J. Sharpe, USPHS, is conducting food handlers' conferences throughout the state is a control measure for food sanitation. He came to West Virginia from the Catawha-Lincoln District Health Department, at Hickory, N. C.

NEW WVU BOARD OF GOVERNORS

Dr. Thomas L. Harris, of Parkersburg, president of the West Virginia State Medical Association, has been named by Governor Clarence W. Meadows as a member of the Board of Governors of West Virginia University. He is a graduate of the University and had his first two years of medicine at the School of Medicine of that institution. The appointment is for a four-year term, effective March 12. An entire new board was named by the Governor.

ACCP MEETING CANCELED

The eleventh annual meeting of the American College of Chest Physicians, scheduled for Philadelphia, June 16-19, 1945, has been canceled. A meeting of the board of regents of the college will be held in Chicago in June for the purpose of transacting the business of the college.

IMPORTANT MEASURES PASSED DURING LAST WEEK OF LEGISLATIVE SESSION

After June 5, 1945, every pregnant woman residing in West Virginia must undergo a standard serologic test for syphilis. The West Virginia legislature, seeking a means to prevent the birth annually in this state of hundreds of children with syphilis, enacted into law a bill (H. R. 9) making it mandatory upon every physician engaged to attend a pregnant woman to acquaint her with the provisions of the new law requiring that a standard laboratory test for syphilis be made at the state hygienic laboratory or at other laboratories approved by the State Health Department.

The laboratory will provide a report in triplicate showing the results of the test. Forms will be prepared and furnished by the State Health Department. The original of the report will be sent to the physician submitting the specimen, a duplicate forwarded to the bureau of venereal diseases during the week that the test is performed, and the triplicate will be retained by the laboratory for its files. The law provides that all laboratory reports shall be confidential and shall not be open to public inspection.

Every physician required to report births and stillbirths shall state on each certificate whether a blood test was performed during pregnancy upon a specimen of blood taken from the woman who bore the child. If the test was made, the physician will report the name of the test used, the date performed, and the name of the laboratory making the test. If no test was made, the physician must state the reason therefor. The result of the test must not in any case be reported on the birth certificate.

As passed by the legislature, the law provides that the serologic tests are to be made by the state hygienic laboratory without charge. It is further provided that, upon request, specimens are to be obtained without charge from pregnant women by county and district health officers.

In areas where the services of a district or county health officer are not available the State Health Department is to assume the responsibility of obtaining the required blood specimens. There is to be no charge for this service.

Postwar Hospital Construction

Taking official notice of a bill pending in Congress appropriating a fund of one hundred million dollars for postwar hospital construction, with five million dollars set aside for the purpose of making state surveys of hospital needs, the legislature passed a bill designating the State Health Department as the sole state agency to deal with the federal government in this matter. The bill authorizes the Governor to appoint an advisory committee to consult with the State Health Department in all matters concerned with this new program.

Barboursville Unit

The Barboursville unit of Weston State Hospital (mental) will hereafter be known as the "Barboursville Unit of the Huntington State Hospital." A bill (S. B. 240) changing the name of the institution was passed late in the session.

All-Nurse Board

Following a stormy path in the legislature, the bill setting up an all-nurse board of examiners for registered nurses was finally passed. The original bill was tabled by the House Committee on Medicine and Sanitation, but was revived in the Senate, amended to meet objections of practical nurses and other groups, and passed by a substantial majority. The bill as passed, requiring annual registration, exempts from its provisions not only practical nurses, but undergraduate nurses and medically trained Waves, Wacs, Spars, and Women Marines. The new law reduces from 21 to 20 the minimum age for student nurses to be eligible for a state nursing certificate.

Andrew S. Rowan Memorial Home

A bill establishing the "Andrew S. Rowan Memorial Home," at Sweet Springs, in Monroe County, was passed by the legislature and approved by the Governor early in March. Effective from passage, the bill will make it possible to provide for the care at Sweet Springs of many white men and women who are now committed to our mental institutions, thus making room for many others who are in need of mental rather than physical care. The bill provides that county departments of public assistance shall pay for the care of persons transferred to the new home, the amount being fixed at $15.00 per month.

Annual Registration of Pharmacists

A bill supported by the State Pharmaceutical Association, providing for the annual registration of pharmacists, was passed during the last week of the session. Under the provisions of the bill, the required experience in a drug store before license can be granted is reduced from two years to one year, and credit for such experience is to be given pharmacist mates in the armed services, providing the instruction and supervision he has received is under a registered pharmacist.

Enrichment of Bread

Enrichment of flour and bread to meet certain standards of mineral and vitamin content will be continued even after peace is declared under the provisions of a bill passed and sent to the Governor. The Commissioner of Agriculture will be the enforcement officer. As originally introduced, enforcement was to be under the State Health Commissioner.

Advisory Medical Supervision

One of the bills passed during the closing days of the legislature provides that the State Department of Health shall have advisory medical supervision of all the state emergency, tuberculosis, and mental hospitals. The State Board of Control will continue to exercise full control of the business and fiscal affairs of all the institutions. Under the old law, the State Health Department had the medical supervision of tuberculosis sanitariums only.

The new law authorizes the State Health Commissioner to establish a bureau of mental health, and to conduct mental hygiene clinics, utilizing the professional services of the state mental hospitals. He will cooperate with the State Department of Education and other school authorities in making available to schools the services of psy-

chologists and psychiatrists, by conducting educational programs, and by other means approved by the public health council.

Appropriations

In the budget bill as finally passed, the division of cancer control of the State Health Department, which has been in operation since July, 1944, is given an annual appropriation of $50,000 for the biennium beginning July 1, 1945. This is the same amount appropriated for the preceding biennium.

The budget bill as originally introduced carried an item of $60,000 annually for the division, but this amount was reduced along with appropriations for several other state bureaus and divisions.

No change will be necessary in the arrangement made by West Virginia University with the Medical College of Virginia for the enrollment of twenty students annually from the University School of Medicine. The appropriation for the first year of the biennium amounts to $40,000, and $80,000 is appropriated for the second year. The increase is necessary on account of the accelerated program that is in force at the Medical College of Virginia at the present time.

One of the subjects to be considered by the interim committee to be set up under the provisions of a House concurrent resolution adopted earlier in the session is the continuance of the two-year school of medicine at the university, the need for an additional building or buildings, and the practicability of establishing a four-year school of medicine.

NEW SUPERINTENDENT AT PINECREST

Dr. George E. Gwinn, of Beckley, has been named by Governor Clarence W. Meadows as superintendent of Pinecrest Sanitarium to succeed Dr. E. H. Hedrick, who resigned after being elected member of Congress from the Sixth Congressional District.

Doctor Gwinn completed his academic and medical work at the University of Virginia, graduating in 1917. He served interneships at the University of Virginia and Boston City Hospitals. After serving in the medical corps of the Army in World War I, he had tuberculosis training under the late Drs. Charles Minor and Charles Cocke, of Asheville, N. C. After a short period of private practice at Hinton, he was appointed in 1930 as staff member of the tuberculosis sanatoria in West Virginia . He has served as medical director at Pinecrest Sanitarium for the past eleven years.

ARMY DOCTORS RETURN

Dr. Ward Wylie, of Mullens, who has had three years' service in the medical corps of the Army, most of which has been spent overseas, has received an honorable discharge. He returned to Charleston in time to serve several weeks as a member of the West Virginia Senate. He was chairman of the Committee on Medicine and Sanitation, and was a member of several other key committees.

Dr. John H. Trotter, of Morgantown, who has been in the Army Medical Corps since 1943, has received an honorable discharge from military service, and has returned to his home community to resume civilian practice.

RECOMMENDS MERGER OF HEALTH UNITS

Merger of the health departments of the city of Charleston and Kanawha County has been recommended by Dr. E. W. Langs, USPHS, who conducted a survey and made an exhaustive study of the matter early in the Winter in cooperation with Dr. J. E. Offner, State Health Commissioner.

The survey, which followed the recommendation of the State Medical Assocaition's Fact Finding and Planning Committee that all city health departments be merged with the health department of the county in which the unit is located, was made with the full consent of city and county officials.

In his report, Dr. Langs recommended that within two years after the merger, all affiliate health agencies, including the entire school health service, be consolidated with the unit which would be under the direction of an experienced health officer. Administration would be under the supervision of a nonpartisan board of health.

NEW HEAD AT WELCH EMERGENCY

Dr. Irvine Saunders, of Welch, has been appointed by Governor Clarence W. Meadows as superintendent of the Welch Emergency Hospital to succeed Dr. F. E. LaPrade, who retired from that position several months ago.

Doctor Saunders, who has been serving as acting superintendent for the past few months, is a native of McDowell County, having been born at Premier. He graduated in medicine at the University of Virginia in 1937, serving an interneship at the University of Oklahoma School of Medicine Hospital and a two-year residency at the United States Marine Hospital at Key West, Florida, and Baltimore, Maryland. He was on the staff at Grace Hospital at Welch for several years, and is now serving his second term as secretary of the McDowell County Medical Society.

NEW ASSOCIATION MEMBERS

The following doctors have recently been elected to membership in component county societies and the State Medical Association.

Dr. Thelma V. Owen, Dr. Marguerite Stemmerman, and Dr. Joseph P. Webb, Huntington, Cabell County; Dr. Ray E. Burger, Welch, and Dr. Florien Vaughn, Hemphill, McDowell County; Dr. W. P. Jamison, Oakland, Maryland, Preston County; Dr. V. L. Kelly, Bluefield, Mercer County; and Dr. Mary Virginia Gallagher and Dr. D. G. Hassig, Charleston, Kanawha County.

1945 HONOR ROLL

As of March 23, the following component societies of the State Medical Association had in the order named reported a 100 per cent payment of dues by members for the current year:

Taylor
Wetzel
Wyoming
Potomac Valley
Marshall
Hancock

Three other societies have reported all dues paid with the exception of one member each.

FOLLOW-UP SERVICE FOR CANCER CASES

A plan providing for follow-up service for patients who previously received medical treatment and care for cancer from the DPA has been put into effect by the division of cancer control of the State Health Department. Records are being traced back to 1938, and every effort is being made to locate patients treated during the past seven years. If the need is shown, care will be provided for them through the new division, but the main purpose of the investigation is to ascertain whether or not they are under proper supervision at the present time.

While it is too soon to provide complete statistical data, it is evident from information already obtained that a surprisingly large number of these patients are under fifty-five years of age. Many of them are self-supporting at the present time.

LICENSED BY RECIPROCITY

The following doctors have been licensed by reciprocity by the Public Health Council as the result of the examination held in Charleston February 26-28, 1945: Alfred Frederick DeMilia, Edwight; Marcus John Magnussen, Bluefield; Joseph James Quarles, Jr. (MC), Fort Huachuca, Arizona; James Chilton Quick (MC), Clendenin; Myrtle Marie Thomas, Roanoke, Virginia; Harold Eugene Troup, Caretta, and Joseph Prentis Webb, Huntington.

RELOCATIONS

Dr. Richard B. Engle, of Beckley, has moved to Minden, Nebraska, where he is on the staff of the Seeley Hospital.

Dr. H. D. Ireland, formerly of Hopemont Sanitarium, Hopemont, has left for Hilo, Hawaii, where he has accepted a position as a staff member at the Puumaile Hospital.

NEELY OFFERS HOSPITAL BILL

A bill appropriating $100,000,000 for each year of the biennium for the construction of hospitals and health centers over the country has been introduced in the House by Representative M. M. Neely, of Fairmont, and referred to the Committee on Interstate and Foreign Finance. The bill would provide an additional $5,000,000 per year for the development of state plans and health centers and hospitals.

It has been estimated that West Virginia would receive over $1,250,000 in the event the allocation is figured on the basis of population. A bill was passed at the last session of the Legislature, designating the State Health Department as the agency to negotiate with the federal government in a hospital construction program.

DR. WILLIAM C. McCUSKEY REAPPOINTED

Dr. William C. McCuskey, of Wheeling, has been appointed by Governor Clarence W. Meadows for another term as a member of the board of examiners for nurses. He will serve until a new all-nurse board is appointed by the Governor under the provisions of the new act passed at the recent session of the legislature, which is effective early in June.

Doctors in the Service

Lt. Commander Louis E. Kroger (MC), USNR, of Parkersburg, who has been attached to the Medical Department, Division of Industrial Hygiene, U. S. Navy Yard, Portsmouth, N. H., is now assigned to the A. & R. Dispensary, USNAS, at Corpus Christi, Texas.

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Major M. G. Hresan, of Minden, has been transferred from Fort Jackson, South Carolina, to the AGF Replacement Depot, at Fort Ord, California.

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Captain F. Eugene Amick (MC), of Charleston, who was formerly stationed at Fort Jackson, South Carolina, has been assigned to overseas service with a field artillery battalion.

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Captain Dan Glassman (MC), of Charleston, who has been assigned to a station hospital in Hawaii, is now with a medical detachment somewhere in the Palau Islands.

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Major Paul R. Revercomb (MC), of Charleston, assistant chief of medicine at the Woodrow Wilson General Hospital, Staunton, Virginia, has been transferred to a general hospital at Fort Ord, California, where he will serve as chief of medicine.

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Lt. J. M. Straughan (MC), USN, of Charleston, is now stationed at the U. S. Naval Hospital, Philadelphia, where he is receiving instruction in surgery. He returned in November from seventeen months' service in the Mediterranean theatre, having participated in the Tunisian campaign and the invasion of Southern France.

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Major Claude B. Smith (MC), of Charleston, who has been with an auxiliary surgical group on the western front for several months, writes that he is now temporarily attached to the 7th Army.

* * *

Major Charles L. Goodhand, of Parkersburg, is chief of the surgical service of the 55th Station Hospital, which has been operating for the past two years in Africa and Italy. The hospital located near Florence, Italy, on top of a mountain, not far behind the front, and is an important link in one of the medical chains of casualty evacuations.

According to a release from Peninsular Base Headquarters in Italy, the hospital was first set up in July, 1943, in Kairouan, Tunisia, which is the third holiest city of the Mohammedans.

The next site of operations was in Italy, and the transfer from Africa to Europe brought its only personal disaster. While most of the personnel crossed the Mediterranean safely on an LCI, two officers, nine enlisted men, and all the equipment were on a large cargo ship that was caught in the Bari raid in December. Three of the enlisted men were lost and all the others suffered burns, many of which were severe.

From its "rear echelon" status, the hospital was moved nearer the front in August, 1944. For two

months it worked with a general hospital and then moved to its present mountain location, still in the direct battle casualty line.

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Captain Ralph Jones, Jr. (MC), of Parkersburg, is now doing malaria research work at the state prison at Joliet, Illinois.

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Dr. W. A. Bevacqua, of Parkersburg, who is located somewhere in the South Pacific, has been promoted to the rank of Lieutenant Commander.

* * *

Captain Eugene R. McNinch (MC), of Weirton, writes from Luxembourg as follows: "It would be difficult to give you an adequate summary of the activities of the organization of which I am a member. As you know, there are a number of West Virginia doctors in the Fourth Division. By way of press and the radio, I imagine you have followed our doings from D-day, through Cherbourg, Paris, Belgium, the Siegfried line, the Hurtgen forest, and now into Luxembourg."

* * *

Major Kenneth M. McPherson (MC), of Beckley, writes from Germany, under date of February 10, as follows:

"Dear Mr. Lively:

"The Journal and your letter arrived two days ago. I note with interest that the state is aware of public health needs. It has never been so forcefully brought to my attention as in the past month. Hygiene and sanitation among the civilians in this area have been at a low ebb for hundreds of years.

"For example, the barn and house are one. Next to the kitchen are the pigs, cows, horses, and chickens. Alongside the building, or within twenty-five paces ,is a poor 'Chick Sales' imitation of an outhouse. The compost pile is in front of the house. There is no drainage except a ditch which usually carries the liquid waste from the compost pile to a well about 25 to 50 yards down hill. The wells are of flimsy construction. Bathing is indulged in on rare occasions. Waste water is just thrown out the door.

"Is it any wonder then that tuberculosis exists, together with the accompanying diseases of poor sanitation and hygiene. If it were not for the many inoculations and vaccines the Army gives we would be in a sad state indeed.

"In the border lands of France, Belgium and Germany I suppose the people feel it is useless to build anything very good. Certainly many towns and cities and country villages have been utterly destroyed. St. Vith is worse than the pictures you saw of Aachen or Monteburg or Nalones.

"The people lived in caves and foxholes. They are hungry, dirty, and destitute. They are quite a problem. We give emergency treatment, but since we are constantly on the go it is very little.

"I am now somewhere in Germany. The Siegfried line is a series of mountain ranges fortified with pill boxes. It is rugged terrain.

"Right now we are slogging along in ankle-deep mud. It rains, snows, and sleets on the same day. Occasionally the sun shines, but there is always a ground haze.

"Sincerely yours, K. M. McPHERSON."

* * *

Captain Leonard M. Eckmann, of South Charleston, has mailed to us a copy of a book on the life of Hitler, which is written in German. The book is printed on a good quality paper, is attractively bound, and contains many pictures of Hitler. It was found in equipment captured from the enemy since Christmas. Doctor Eckmann says it is doubtless one of thousands of such books distributed among German soldiers.

Captain Eckmann, who is somewhere in France, writes that he has not received a copy of the West Virginia Medical Journal for three months. However, he says that mail has been very slow and irregular for several months. Concerning his recent activities, Captain Eckmann writes as follows:

"We've been on the move again now that the German offensive in Belgium and Luxembourg has been written off. I can breathe a lot easier. In our own way, we did our share to help push the Germans back, and quite creditably, too.

"I am still in France, but it's a peculiar part of France. in that the Nazis did their damndest to eradicate everything French about it. Putting together what I've seen and found myself, plus what the natives here tell me, it must have been no bed of roses here for any Frenchman. The official language was German, and anybody caught speaking French would be carted off to jail. The street signs were all in German and so were the signs on building walls, store windows, and on wagons.

"There is a modern school building nearby that I've gone through quite thoroughly. One portion of it took a heavy artillery shell, which exploded on the second story and left a mess of broken benches, cabinets, a piano, files, and the like. And included are some not-too-subtle propaganda publications, giving Hitler lots of glamour and patting the Nazi party pretty nicely on the back.

"One finding gave me a feeling of a moral victory over the foe. On the door of a lavatory, the sign was still in French—'occupe' and 'libre.'

"The people apparently made the best of a bad situation. They all speak French and German, so I've been practicing in both languages, particularly with the kids. We have a couple of 17-year-old French lads who do our KP in exchange for their meals and left-overs. They were O. K.'d by the powers that be.

"There are many tales to tell, but they can't all be mentioned here. Perhaps before too long, they can be told in person. Here's hoping."

* * *

Lt. Commander E. Lyle Gage (MC), USNR, of Bluefield, who was formerly stationed at a naval hospital in this country, is now in Sicily. He writes that work goes on there as usual, and that they have had considerable surgery to do.

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Major William L. Claiborne, of Huntington, is assigned to a general hospital located somewhere in England. He has been overseas for several months and just recently was promoted to the rank of major.

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Capt. Daniel Hale, of Princeton, was quoted in a recent **Associated Press** dispatch as predicting that many enlisted men attached to Army hospitals in the Philippines would enter the field of medicine and pharmacy after the war. He is reported as having told Milton Chase, WLW staff correspondent with General MacArthur, that medical corpsmen had gained valuable experiences during the progress of the campaign in the Philippines.

Captain Hale is assigned to a 1,000-bed hospital located on Luzon, in the hills between Lake Laune and Lake Tall.

Book Reviews

TECHNIQUES OF THE STANDARD KAHN TEST AND OF SPECIAL KAHN PROCEDURES—Reuben L. Kahn. University of Michigan Press, Ann Arbor, Michigan, October, 1944, pp. 52, $.25.

The author presents a revision and concentration of the procedures published in his earlier and more comprehensive works of 1925 and 1928. The technic is given in detailed outline form, covering all phases of preparation and standardization of reagents and its application to the standard and special tests of both blood serum and spinal fluid.

It was the reviewer's privilege to hear Dr. Kahn's original presentation of the test and to have used this test for some twenty years. Having labored through the extensive experimental details of the earlier editions it is a pleasure to find these now reduced to a simplified presentation in such form that any competent technician should be able to grasp and successfully apply them.

The tables (pp. 13-15) of interpretation of the several possible reactions appear especially valuable, particularly to the beginner.

In view of the requirement by law of serologic tests to applicants for marriage license, to beauticians, barbers and food handlers, this review would seem particularly apt and timely.

The reviewer has long held, however, that the preparation and standardization of the Kahn antigen is not to be lightly undertaken by the relatively inexperienced technician, and that the smaller laboratories might better make use of standardized antigen supplied by the State Hygienic Laboratory or obtained directly from the laboratories of Dr. Kahn.—Robb Spalding Spray.

* * *

MEDICAL USES OF SOAP—Edited by Morris Fishbein, M. D. Cloth, price, $3.00, pp. 182, with 41 illustrations, J. B. Lippincott Co., Philadelphia.

This little handbook on soap includes much more than its title may suggest. Included are chapters on soap technology, valuable information about newer detergent, the effects of soap on normal and abnormal skins, on the hair, soaps for the industrial worker, mechanism of shaving and the use of cutaneous detergents other than soap. In each case the facts are presented clearly and concisely. Not only are the uses of soap indicated, but much valuable information on methods of use is supplied; for example, there is a chapter on the technique of shaving.

A listing of dermatoses in which soap is useful and of those in which its use in contraindicated is given. Any physician who treats skin conditions at all will find this list, as well as the whole chapter on effects of soap on abnormal skin, highly useful. The industrial physician will be interested in the chapter on soaps for industry.

This book may be recommended to all who treat skin diseases, who may have to recommend soap or related detergents, or who are interested in knowing how soap cleans.—J. J. Lawless, M. D.

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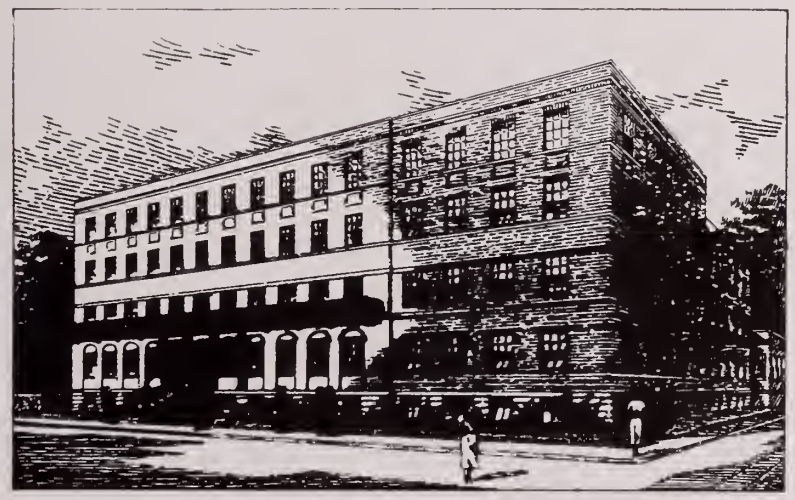

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APPROVED LABORATORY TECHNIC—Kolmer and Boerner. 4th edition. Appleton Century, 1945.

This book presents techniques for the performance of numerous laboratory examinations. As in previous editions, the techniques are given in greatest detail, so that a high degree of accuracy in results is possible.

The size of the book has not been increased to any great extent, but much new material has been added. The older but still standard tests are repeated and also in this edition many of the latest techniques devised have been included in all sections. There is much emphasis being placed today on the necessity for accurate parasitological examinations and it is noteworthy that the new section devoted to the examination of blood and feces for animal parasites is completely up to date, with excellent illustrative plates of such parasites and detailed directions for such examinations. Other excellent new sections have been added, for example those giving the latest methods for the determination of hormones and vitamins in blood and urine.

In the opinion of the reviewer, this is one of the best books of its kind in the field and will continue to be an important aid to those engaged in the laboratory diagnostic field.—Mary Jo Henn, M. S., M. T. (A. S. C. P.)

* * *

THE MARIHUANA PROBLEM IN THE CITY OF NEW YORK—Sociological, Medical, Psychological, and Pharmacological Studies by the Mayor's Committee on Marihuana. The Jaques Cattell Press, Lancaster, Pennsylvania, 1944. 220 pp. Price, $2.50.

This little book constitutes a scientific debunking of the romantic imaginings of many popular writers. The widespread publicity describing the dangerous effects of marihuana usage, especially among school children, led Mayor La Guardia to ask the New York Academy of Medicine to study the whole problem. A committee of able clinicians, psychiatrsits, and pharmacologists was appointed to carry out an adequate survey of the use, actions, and social aspects of marihuana.

Social surveys showed that marihuana smoking is fairly prevalent, but the majority of users are

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twenty to thirty-year-old indigents, who, idle and lacking initiative, suffer boredom and seek distraction. Smoking is indulged in for the sake of conviviality and sociability and because it affords a temporary feeling of adequacy in meeting disturbing situations. In most instances, the behavior of the smoker is of a friendly, sociable character. The marihuana user does not come from the hardened criminal class and there is no direct relationship between the commission of crimes of violence and marihuana or between sexual desires and marihuana. There is no organized traffic in marihuana among New York school children.

Clinical study indicated that marihuana, the active principles extracted from it, and synthetic relatives produce law grade euphoria with some loss of static equilibrium. No tolerance or physiological dependence like that of morphine is developed and only rarely is an individual encountered who exihibits an antisocial behavior. Complete pharmacological investigation of the agent in suitable laboratory animals and experiments with morphine addicts lead to the conclusion that it is scarcely possible for the material to have any valid therapeutic use.

This easily read, authoritatively written book is certain proof that an integrated team of well-trained specialists can solve the complex problems of modern society. It will serve a useful place in the professional library and can do much to dispel the myths and legends of marihuana.—David Marsh, Ph. D.

NOT CANCELED

The art contest sponsored by Mead Johnson & Company on the subject of "Courage and Devotion Beyond the Call of Duty" (on the part of physicians) has not been canceled or postponed.

The closing date remains May 27th, 1946.

There will be no annual exhibit this year of the American Physicians Art Association, due to the cancelation of the American Medical Association meeting which had been scheduled to take place in Philadelphia, June 18-22, 1945.

For full details regarding the $34,000 prizes and the "Courage and Devotion" contest, write Dr. Francis H. Redewill, Secretary, A. P. A. Assn., Flood Bldg., San Francisco, Calif., or Mead Johnson & Co., Evansville, Ind.

1944 PRODUCTION OF PENICILLIN

Sufficient penicillin was produced in this country last year to treat 3,200,000 sufferers from such serious diseases as septicemia or pneumonia, according to Dr. Theodore G. Klumpp, president, and Dr. Justus B. Rice, director of medical research, Winthrop Chemical Company, Inc., New York and Renssaeler, New York.

Expansion of penicillin production in 1944 to close to sixteen hundred billion (1,600,000,000,000) Oxford units, 8,000 per cent of the total production of all previous years, and new developments in antibiotics, chemotherapy, blood plasma, anesthetics, antiparasitics, and insecticides were reviewed in a scientific paper prepared by the two doctors for publication in the current issue of Chemical and Engineering News.

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Vol. XLI May, 1945 No. 5

DIFFERENTIAL DIAGNOSIS AND TREATMENT OF DISEASES INVOLVING THE SPLEEN*

By CHARLES A. DOAN, M. D.,

Dean and Director of Medical Research, Ohio State University of Medicine, Columbus, Ohio.

When we began twenty-five years ago to study some of the more fundamental problems of cellular and humoral immunity, it soon became apparent that we must deal, not only with the sources of the blood and tissue cells involved, but also with their distribution in the body.(1) The bone marrow and lymph nodes are especially concerned with the origin of the circulating blood cells. The spleen serves as a reservoir for these cells, and as a conservator and storage depot of elements important for hematogenesis. In these roles the spleen becomes a potential pathogenic agent—an organ that can mimic, and can simulate in its pathologic control and destruction of the circulating blood elements, any failure in cellular production by the bone marrow.

The spleen, therefore, from "an organ of mystery"—an organ, which, because it is not essential to life, has been difficult to study by the experimental approach in splenectomized animals, or in the normal human individual deprived of his spleen through traumatic rupture—has, nevertheless, gradually yielded to human clinical pathologic studies. Enlargement of the spleen is frequently accompanied by a pathologic accentuation of one or more of its physiologic functions, and under such circumstances successful surgical removal of this organ is followed by a dramatic restoration of normal hemolytopoietic equilibrium.

The bone marrow is responsible in the normal adult mammal for erythropoiesis, for granulopoiesis, and for thrombocytogenesis. The spleen may remotely influence very materially the actual development and delivery of the marrow elements, in addition or secondary to its reservoir, sequestration, and conservational functions, in situ. "For every physiologic function there is a pathologic dysfunction," is a fundamental law of biology. Therefore, if we know the functions of the spleen we may predict and be prepared to recognize certain pathologic states dependent upon corresponding splenic dysfunctions.

Figure 1 diagrammatically presents the anatomical structures and what is known of the related physiologic functions and corresponding pathologic dysfunctions of the human spleen.(1) The vascular system of the spleen is made up of arteries, veins, and sinusoids, which serve admirably as a reservoir for blood cells and plasma. Pathologically there may be congestion of this vascular system, with an enlargement of the spleen and excessive sequestration of plasma and cellular elements secondary to myocardial failure, bacterial toxemia, or hepatic cirrhosis with portal hypertension.(2) The spleen is a lymphatic organ with typical lymph sinuses and follicles, the germinal centers of Fleming reflecting normal lymphopoiesis. The function

*Presented before the 77th annual meeting, West Virginia State Medical Association, Wheeling, May 15, 1944.

or functions of the lymphocytes under normal conditions continue under investigation and discussion. They are not simply precursors of other blood cell types. Probably they have to do with endogenous protein metabolism, in addition to their defense function as infiltrative elements surrounding foci of infection, in tubercles, chronic abscesses, and perhaps in less obvious tissue reactions as reflected in the postinfective peripheral lymphocytoses. The lymphatic portion of the spleen is involved in hyperplastic reactions, in chronic lymphatic leukemia, in

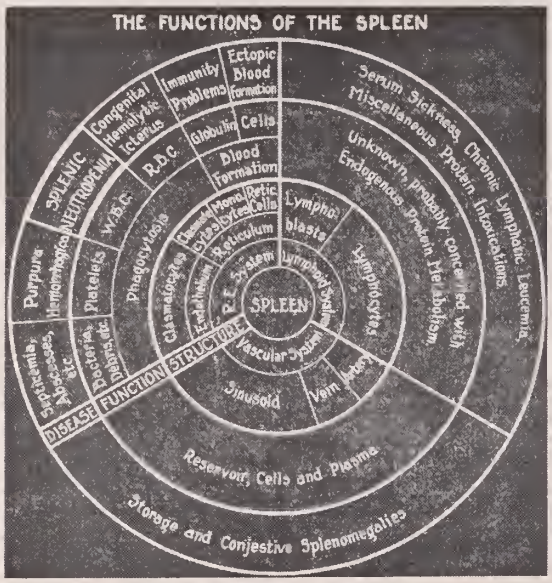

FIGURE 1—The Functions of the Spleen.

serum sickness, and in other types of miscellaneous protein intoxications and sensitizations. Thus, the lymphatic tissues in the spleen parallel in their reactions the lymphocytic responses elsewhere in the body.[3] The third and perhaps most significant and important structural and functional element in the spleen is the so-called R-E system of phagocytic cells. It is within this system of cells that the enigmatic mystery of the pathologic role of the spleen in human disease has resided, chiefly, in the past. This R-E system is made up of endothelium and reticulum. The reticulum gives rise to other reticulum cells and to the primitive cells from which monocytes differentiate and mature. Reticulum cells are mesenchymal rest elements in the adult tissues with embryonic potentialities. This complement of embryonic, or potentially developmental mesenchymal tissue in the spleen may lead to ectopic blood formation under certain pathologic circumstances. The specific endothelial cells have a marked phagocytic capacity in situ and as free desquamated clasmatocytes.[2] There is evidence that these reticulo-endothelial cells also participate in the production of antibody globulins.[3] Tissue cultures of these cells from the spleen, when inoculated by Dr. Ben Houghton in our laboratory with an azo-egg albumin dye antigen synthesized by Heidelberger[4] have been followed via kodachrome microcinematography daily and the changes observed have been interpreted as the physical origin of the specific antibodies subsequently demonstrated.

The two types of phagocytic cells in the spleen—the so-called clasmatocytes of Ranvier, resting-wandering cells of Maximow, or macrophages of Metchnikoff, plus the monocytes of Schilling, under normal physiologic conditions rid the blood stream of cellular and bacterial debris, just as do the Kupffer cells of the liver.

The phagocytic capacity of these cells, however, is something of a two-edged sword. The protective function they subserve physiologically is susceptible at times of excessive pathologic destruction of normal cellular elements, particularly in individuals who develop, acquire, or have a congenital predisposition to hyperfunction of this organ. In congenital hemolytic icterus the red blood cells become the chief victims of splenic destruction. The blood platelets are more or less selectively attacked in thrombocytopenic purpura hemorrhagica of the splenic type. More recently we have differentiated primary splenic neutropenia from Banti's syndrome, in which the spleen more or less specifically destroys the neutrophilic granulocytes. Despite an obvious heroic effort on the part of the bone marrow to compensate by producing vastly increased numbers of neutrophilic granulocytes, the spleen keeps their level in the circulating blood, and therefore the supply to the tissues, at a minimum, so that infection of pathologic significance may develop at any susceptible site.

If this organ, can, under certain circumstances, selectively sabotage red cells, granulocytes, or platelets, respectively, at the expense of the body economy, then in some individuals the spleen might very well be expected to fail entirely to discriminate between the elements passing through it, resulting in a pansplenic hematocytopenia simulating hypoplastic anemia, but without any inadequacy on the part of the bone marrow to produce these elements. Actually in such patients we have found a tremendous

compensatory hyperplasia of all bone marrow elements.

CONGENITAL HEMOLYTIC ICTERUS

Perhaps a few clinical illustrations may be appropriately presented in support of the preceding analysis. Congenital hemolytic icterus is the best known of the conditions in which we have this problem of splenic dysfunction. There has been some discussion between clinicians and hematologists as to whether it reflects a primary bone marrow (erythrocyte fragility, and microcytosis), or primary splenic disease (hemolytic icterus). The accumulated evidence seems to point clinically and histopathologically to the reticulo-endothelial cells of the spleen as the fundamental fault, since in so far as the patient is concerned this hemolytic anemia can be permanently cured if, and as, and when *all* splenic tissue is removed from the individual who shows this particular inherited trait. Because it probably is a dominant gene factor, the transmission by inheritance is, of course, not influenced by splenectomy.

The second question which arises frequently in congenital hemolytic icterus is whether it is ever justifiable to remove the spleen in the presence of an acute erythroclastic crisis. We believe it is, and we believe furthermore that it may be fatal not to do so, because blood transfusions and every other supportive measure except splenectomy have failed to stop such crises in our clinic. Acute hemoclastic crises may be precipitated in susceptible individuals by pregnancy, by minor traumata, by an upper respiratory infection, by surgery, or spontaneously without any demonstratable cause. Because of the over-sequestration of red cells which accompanies and precedes their excessive destruction in an enlarged spleen, adrenalin contraction of this organ in acute crises at once provides an autotransfusion amounting to as many as 1,000,000 or more red cells per cu. mm. on the operating table (Figure 2). It is for this reason and on the basis of this mechanism that surgery may be safely undertaken in selected cases.

A young woman, aged 20 years (Figure 2), was admitted to the hospital in coma, with a markedly dilated heart. She was sent in with a diagnosis of acute myocardial failure, blood pressure 50 systolic and 0 diastolic. Two younger brothers had been seen a month before in our clinic in hemoclastic crises, and a diagnosis of congenital hemolytic icterus had been established. At that time the sister had 4,000,000 red cells, but in the interim this acute episode developed spontaneously, and a physician not acquainted with the family history made the diagnosis of organic heart disease. The admission

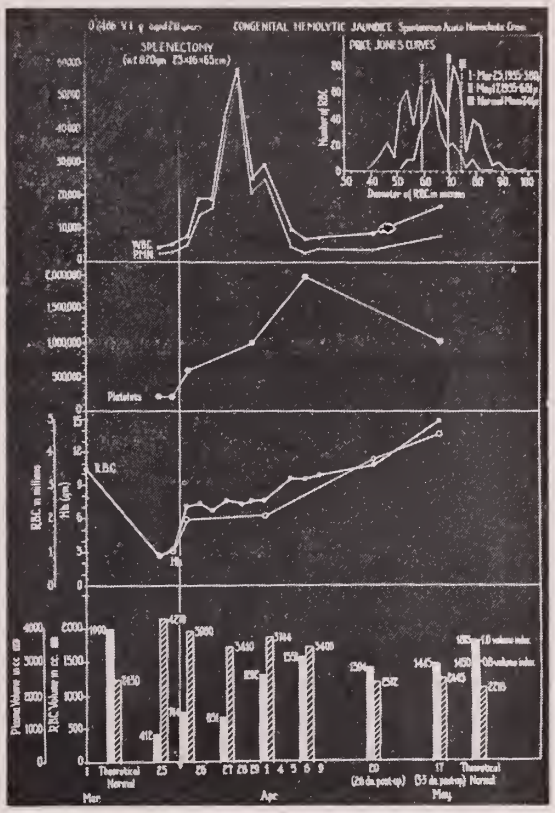

FIGURE 2—Erythroclastic Crisis, Spontaneous, Acute, Congenital Hemolytic Icterus.

red cell count was 800,000 with 2 grams of hemoglobin. Blood volume studies showed only 412 cc. of circulating red cells with a calculated theoretical normal for her age, weight, and sex of 1990 cc. Emergency splenectomy was advised and accomplished within five hours of admission without preoperative transfusion for the reasons already cited. Immediately postoperatively, (820 gram spleen removed) the red count was 2,400,000, hemoglobin 6 grams, which resulted from the auto-transfusion accomplished through the shrinking of the spleen by adrenalin at the operating table before the ligation of the splenic pedicle.

This absolute increase in available red cells was further proved by a second blood volume study, which revealed 744 cc. of circulating red blood cells immediately postoperatively. Furthermore, the clinical evidence of cardiac dilatation with relative incompetency of all the valves, that was so

obvious and so apparent, and of so much concern to the original examining clinician, and to the operating surgeon, had disappeared as promptly and dramatically as the extreme anemia. Within twenty-one days this patient's red count was back to 5,000,000, the hematocrit normal. The platelets rose from 250,000 to 2,00,000 and the white blood cells from 4,000, with 1,500 granulocytes, to 60,000 with 55,000 neutrophils, reflecting the secondary splenic hypersequestration of these circulating elements without bone marrow inadequacy.

The Price-Jones curves in the graph present the changing red cell diameters from the microcytosis, which predominated during the hemoclastic crisis, to a normal of 7 microns, 4 months postsplenectomy. All of the hematologic data in this case, therefore, point to the spleen and not to the bone marrow as the responsible organ for the almost fatal episode described.

Occasionally, if all accessory splenic tissue is not removed at the original operation the same type of hemolytic anemia may recur at some future date. Figure 3 is the first case of erythroclastic crisis that was subjected to splenectomy in our clinic in 1933, to test the theory that if splenectomy was beneficial in chronic congenital hemolytic jaundice, then in acute crisis, it should be literally life saving. This 4 year old girl had an insidious, gradual onset of weakness with pallor, originally diagnosed as pernicious anemia. After failure to respond to liver extract, iron, and blood transfusions, however, and after a total white cell count of 60,000 with less than 1,000,000 red blood cells per cu. mm. was reported, the diagnosis was changed to acute lymphatic leukemia and a fatal prognosis given. In consultation it was discovered that the 60,000 "white blood cells" were mostly normoblasts, and that there were 95 per cent reticulocytes. The mother and maternal grandfather were shown to have the laboratory stigmata of congenital hemolytic icterus, previously unsuspected in this family. Splenectomy was advised and accepted and the clinical response was as dramatic as the promptness of the hemolytopoietic readjustment, shown in Figure 3. All remained well until the fall of 1938 when evidences of a recurrence of the hemolytic phenomenon appeared.

An abdominal reexploration was done when the total red cells reached 2,000,000, and three small accessory spleens were found and removed. It seemed incredible at the operating table that so little tissue could be causing so great an anemia. Therefore, a biopsy of the liver and several mesenteric lymph nodes, though both were grossly normal, were removed at the same time for histological examination with the thought that we might be dealing with a generalized reticulo-endothelial

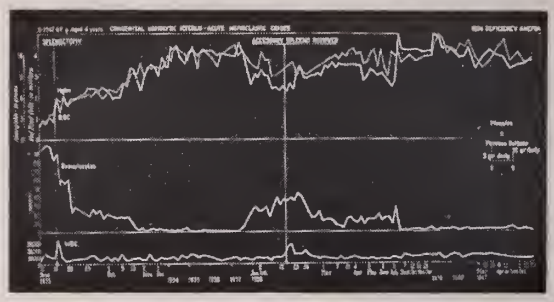

FIGURE 3—Recurrence of Erythroclastic Crisis in Congenital Hemolytic Icterus Secondary to Activation of Accessory Splenic Tissue Five Years After Initial Splenectomy.

hyperplasia in this child. The liver and the lymph nodes were entirely normal for Kupffer's cells and phagocytic cells, respectively, but each of the three bits of splenic tissue removed showed the purest culture of phagocytic cells filled with ingested red cells in all stages of disintegration which we have ever seen. Recovery was prompt and complete and there has been no further recurrence to date of any hemolytic anemia. This patient did develop, following measles and again following another infection, a secondary iron deficiency anemia quite distinct from the two episodes of hemolytic anemia, with prompt response to supplementary iron therapy.

On the basis of the foregoing evidence, which has been multiplied many times in our clinic, and in others, we believe in and advocate prophylactic splenectomy to avoid erythroclastic crises and the formation of pigment gallstones, in cases where the disease has been definitely diagnosed and has shown any signs of activity. Whether the pre-operative red cell count is 700,000 or 4,000,000 the results have been equally satisfying and permanent.[5]

THROMBOCYTOPENIC PURPURA

Let us consider for a moment another condi tion—acute thrombocytopenic purpura, splenic type—in comparison with an acute erythroclastic crisis. In an acute purpuric crisis the physician is again faced with a major medical emergency, which requires exact methods of differential diagnosis to be promptly made and accurately interpreted.[6] The sternal bone marrow must be studied and should show megakaryocytic hyperplasia with many young

megakaryocytoblasts. The adrenalin test may or may not reveal splenic hypersequestration of platelets. Figure 4 is illustrative of such a patient in whom a series of hemorrhages lowered the red cells to a critical level comparable to that seen in acute hemolytic crises. After an 1100 cc. emergency blood transfusion, splenectomy was successfully accomplished, and the recovery of the red cells in this purpuric patient paralleled in time relationship that of the patients with hemolytic erythroclastic crises (Figure 4). With the increase in blood platelets which follows immediately after splenectomy, all hemorrhages cease, and the hyperplastic marrow, as in the case of hemolytic icterus, quickly reestablishes the red cell equilibrium. The bone marrow activity and response is indistinguishable in these two diseases, the destructive role of the spleen being also equally well established in both.

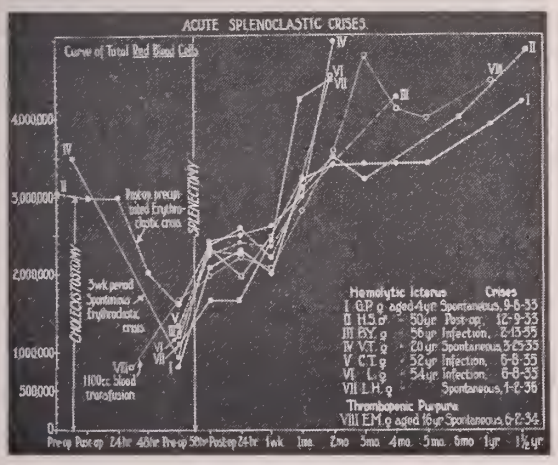

FIGURE 4—Erythrocyte Recovery in Seven Cases of Acute Erythroclastic Crises in Congenital Hemolytic Icterus and in One Case of Acute Thrombocytopenic Purpura.

Three years later this patient gave birth to a child in University Hospital. We followed her through pregnancy without platelet deficiency or hemorrhagic phenomena developing. The infant, however, at birth and during the first two weeks of hospital observation, showed only about one-half the normal number of circulating blood platelets recorded in the other newborn infants on the obstetrical service during the same period. There was no clinical purpura, and no acute purpuric episodes have developed to date, but the relative and absolute thrombocytopenia, which was definitely established, suggests an inherited tendency, at present subclinical, but potentially susceptible of future activation.

There are many causes and many suggested methods of treating *chronic* thrombocytopenic purpura. Figure 5 is such a chronic case, in which there was time and opportunity to try various methods of correcting the thrombocytopenia. Therapeutic x-ray, cevitamic acid, snake venom, viosterol, and parathyroid extract, with blood transfusions as required, failed to influence favorably platelets or symptoms over a period of months in this and in similar cases. Finally, splenectomy was advised and accepted. A transfusion of freshly removed, matched blood (not from a blood bank), so that the platelets are still effective, should always be given preoperatively to control hemorrhage. The spleen in uncomplicated thrombocytopenic purpura is usually not palpable. But when it is removed (in this case a 150 gram spleen) the platelets increase immediately. All hemorrhagic tendencies and manifestations disappear on the operating table, and an excess of platelets is rapidly reestablished in the blood and maintained, thereafter, premanently.

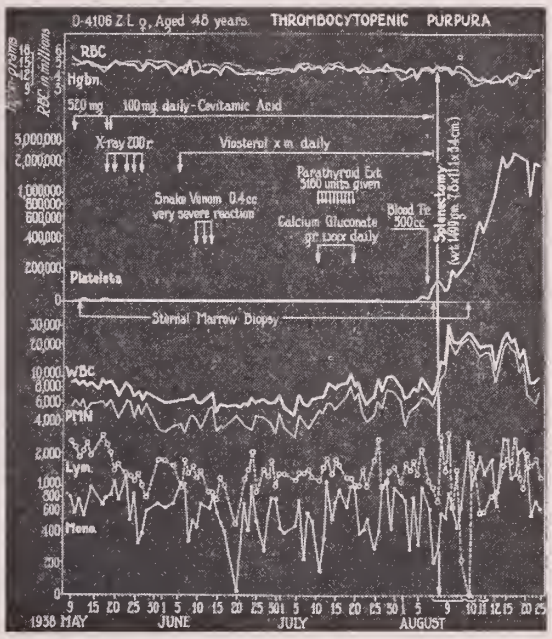

FIGURE 5—Chronic Thrombocytopenic Purpura Hemorrhagica in Which Failure to Respond to Various Therapeutic Measures Was Followed by Dramatic Recovery After Splenectomy.

Usually, following splenectomy, the thrombocytes temporarily increase excessively in the circulating blood to two, three, or four milllion per cu. mm. before an equilibrium at approximately 1,000,000 is established at a level, charactersitic of the individual patient. In our series of purpuric patients

subjected to splenectomy, there has been only one who failed to follow this general pattern. Following an initial response from zero to 400,000 platelets per cu. mm. postsplenectomy, this young man with typical clinical, blood, and bone marrow findings of thrombocytopenic purpura, showed complete and permanent clinical relief from his previous near fatal hemorrhages, but the circulating excess of platelets has remained well below the average normal level at 50,000 to 125,000 per cu. mm. Operated upon five years ago, this patient was last seen within the past month still clinically well and with no change in his hematologic status.

Some of the more chronic cases with few or no platelets in the peripheral blood still do not hemorrhage dangerously because the bone marrow is producing sufficient platelets for current demands but without that excess which most individuals have to provide against emergencies. In the acute cases with uncontrollable hemorrhages the absence of platelets in the circulating blood is associated with a negative balance—an absolute deficiency even below minimum current requirements, the amount and character of the hemorrhage being the only measure of the degree of the deficit.

Do not remove the spleen in allergic or anaphylactoid purpuric states; rather, support as necessary with blood transfusions and search for and eliminate the offending antigen. Examination of the bone marrow in these patients will frequently reveal toxic damage to the megakaryocytes and time must be given for the elimination of the foreign antigen and for the development of a new replacement generation of these mother cells. Figure 6 illustrates such a case of sedormid-induced thrombocytopenic purpura hemorrhagica. Two years earlier this patient had been seen and treated for a typical allergic purpura of undetermined etiology. At that time she was warned against future recurrences, with particular emphasis upon the avoidance of all drugs which might be antigenic. Upon questioning at this second admission it was discovered that sedormid had been taken for a brief period some six months prior to its current use for insomnia. The marrow showed the typical destruction of megakaryocytes reflected by a profound peripheral thrombocytopenia, with some vacuolization of myelocytes and erythroblasts. Before discharge, and because of the two purpuric episodes in this patient, it was thought desirable to determine the relationship of the sedormid to the purpura. Three one-hundredths of a gram, the smallest possible fraction of a sedormid tablet, were given by mouth with the thought that a minor subclinical fluctuation in the platelets would prove diagnostic, as in other patients previously so tested. However, an acute purpuric crisis was precipitated

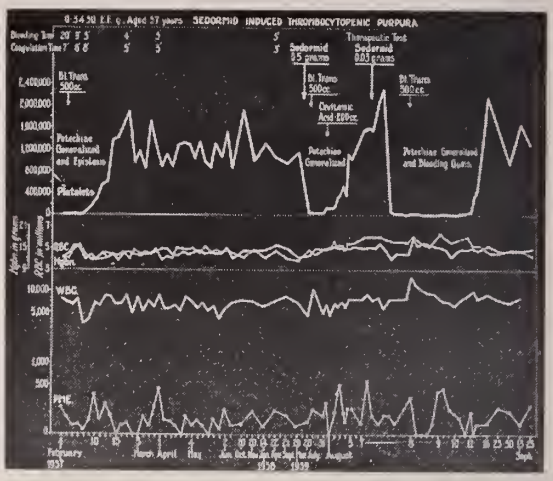

FIGURE 6—Thrombocytopenic Purpura Secondary to Sedormid Sensitization.

within four hours, during which time the platelets rose from a base line of 650,000 to 1,200,000, then fell precipitously to zreo. Purpuric manifestations with succeeding crops of petechiae and ecchymoses continued for three days and no platelets returned to the circulation for seven days. The sensitization was inherent in the megakarocytes primarily, and in the other bone marrow elements secondarily as proved by serial sternal marrow studies. This indicates the very real danger inherent in such tests, and should discourage their indiscriminate use. It has been our experience that a careful history, supported by certain clinical, peripheral blood, and bone marrow observations, with discriminatory qualitative and quantitative studies of the marrow elements, will usually sharply differentiate the toxic type of thrombocytopenic purpura on an alergic basis from the so-called splenic type.

BANTI'S SYNDROME

Banti's syndrome is characterized in the so-called third stage by splenomegaly, portal cirrhosis with or without ascites, and leucopenia. With our increased knowledge relative to the prevention of progressive cirrhosis by dietary measures, many of these patients now may be treated medically quite successfully. The splenomegaly in these patients is very difficult to reduce by x-ray, or by any other

means, and the associated leucopenia, the moderate anemia, and the moderate thrombocytopenia are potentially dangerous. If ,therefore, the liver function is not too greatly impaired, splenectomy should be considered.[7] Because of the frequency of perisplenitis with extensive adhesions and marked dilatation of the vasa brevia, splenic artery ligation may occasionally need to be substituted for splenectomy.

If and when the spleen can be removed in these cases a normal cellular equilibrium is reestablished, and a situation is created in which further medical management may be more successfully accomplished. The earlier in the course of this disease the spleen is removed the safer and the better.

PRIMARY SPLENIC NEUTROPENIA

From this rather heterogeneous group of Banti's syndrome, with a variety of etiologies [8], we have identified, defined, and subtracted a subgroup of so-called primary splenic neutropenia.[9] This syndrome may be chronic, subacute, or acute in its clinical manifestations. Profound neutropenia with splenomegaly, but without demonstratable liver damage are the principle diagnostic criteria, plus a marked nonleukemic myeloid hyperplasia of the bone marrow. There are oral ulcerations, chronic infections and abscesses reflecting the deficit in granulocytic cell defense in these individuals.

The differential diagnosis lies between primary splenic neutropenia and Banti's syndrome, Felty's snydrome, malignant neutropenia, and subleukemic leukemia. There is portal hypertension and cirrhosis of the liver in Banti's syndrome. In Felty's syndrome the neutropenia is usually less severe than in primary splenic neutropenia and there are joint disturbances with the splenogmegaly. In malignant neutropenia, there is usually a history of antigenic drugs, there is no splenomegaly, and the bone marrow shows toxic damage, particularly with reference to neutrophilic myelocytes, which may be almost completely absent. In subleukemic leukemia, if the blood picture itself does not show pathognomonic qualitative cellular changes, the bone marrow will be hyperplastic with leukemic elements.

Figure 7 outlines the hematologic data from a woman 67 years of age who had complained of progressive weakness, conjunctivitis, and chronic ulcerations for seventeen months. She had enjoyed unusually good health until the present illness. Both personal and family history were noncontributory; no allergy, no drug ingestion, no familial disease. Her temperature, pulse, and respiration were normal. The spleen could be felt 8 cm. below the left costal margin. She had chronic bilateral conjunctivitis, indolent ulcers of both legs that would not heal, and cystitis. The total white count ranged between 600 and 800 per cm. with a granulocyte level of 200 to 300, which had resisted nucleotide therapy. The total red cells were 3,500,000 to 4,000,000, and the platelets normal. The bone marrow was hyperplastic; myeloid: erythroid ratio, 5 to 1, with many megakaryocytes.

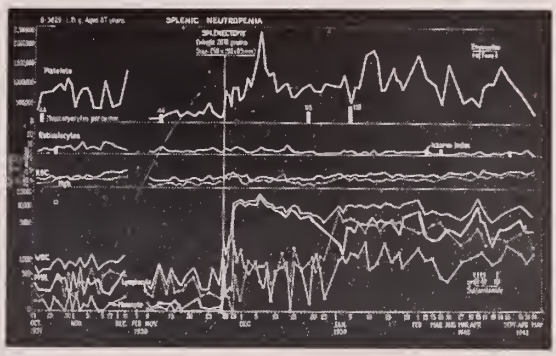

FIGURE 7—Chronic Primary Splenic Neutropenia with Permanent and Complete Recovery Following Splenectomy in a 67 Year Old Woman.

Her chest x-ray showed an old fibrotic lesion at the right apex without current activity. The electrocardiogram showed a moderate amount of myocardial damage. Liver functions, kidney function, basal metabolic rate, glucose tolerance, and all other laboratory tests were within physiologic limits. Because of her age splenectomy was refused by the family as too hazardous. Nine months elapsed and in November, 1938, she was admitted to the hematologic service a second time with an accentuation of all previous complaints. The total white count was less than 500 per cu. mm. with 25 to 50 granulocytes and both red cells and platelets were now definitely reduced. The spleen practically filled the abdomen and the bone marrow was still hyperplastic for all normal elements. The ulcerated areas had gotten larger, the conjunctivitis was interfering with vision and she recently had been bedfast. Both patient and family requested splenectomy if any hope of relief might be offered. The response, both hematologically and clinically, was dramatic and has been sustained to the present writing (Figure 7). The chronic leg ulcers healed before the surgical incision. An acute episode of facial erysipelas developed some months later, with a prompt leucocytosis and therapeutic response to

sulfanilamide, substantiating the fundamental integrity of the bone marrow. She has remained well enough to do all of her own housework and care for her family at 74 years of age. There were eight to ten highly phagocytic clasmatocytes per oil immersion field in the supravital preparations of the freshly removed spleen as studied histopathologically, and each was loaded with granulocytes and myelocytes predominantly, with other cellular debris. Multiply this by 2,000 grams of splenic tissue and the resulting deficit of normal circulating elements in the peripheral blood is readily explained.

Similar subacute and acute clinical syndromes on the same etiologic bases have been seen and successfully treated in our clinic and elsewhere in recent years.[9]

CONTROL STUDIES

That these immediate and spectacular readjustments of cellular disequilibria are due to specific splenic sequestration and hyperdestruction has been further demonstrated by comparative studies in a large number of patients before, during, and following surgical operations involving other organs and tissues in the abdomen—as for example gallbladder, kidney, appendix, intestines—without such cellular responses.

A question that is frequently raised by these patients or their families is how essential the spleen may be to the future health and longevity of any individual. In the acute splenic crises it is obvious that no alternative remains to patient or physician; a pathologic spleen must be removed promptly and successfully as an emergency life saving measure. Such patients not only recover rapidly and completely but, as has been indicated, they resist infection more successfully after splenectomy than before.

Furthermore, a series of perfectly normal individuals has been studied in whom splenectomy was necessary following traumatic rupture of this organ; and over a period of years they have shown no greater susceptibility to infection than they did previously or than others of similar age and occupation. Complete blood studies have failed to reveal any significant deviation from the normal.[10]

CONCLUSIONS

1. The spleen is more important pathologically than physiologically in the consideration of human health and disease.

2. When any one of its physiologic functions becomes accentuated pathologically, serious consideration should be given to its prompt removal, particularly in the more acute syndromes. The pathologic spleen may at times constitute a very real threat to both health and actual survival. The leukemic states are an exception to this generalization.

3. The spleen is not, apparently, essential to the maintenance of human life or health at any age, and, therefore, may be removed without prejudice to future hemolytopoietic equilibria and longevity.

4. The potentially important role which may be played by the spleen in a number of different clinical syndromes, associated particularly with a varying degree and type of peripheral cellular disequilibria, requires careful diagnostic discrimination and frequently demands prompt specific surgical treatment.

DISCUSSION

DR. HOLROYD: Does anyone have any questions?

DR. DOAN: There is a question here as to the etiology of neutropenia. Neutropenia is not a diagnosis; it is a sign, like fever or anemia. Neutropenia may occur under many circumstances and secondary to several mechanisms. The etiology of "primary splenic neutropenia" is hypersplenism with reticulo-endothelial cell hyperplasia and excessive ingestion of granulocytes specifically.

QUESTION: Have you developed any beneficial results from splenic extracts in allergy?

DR. DOAN: We have been unable to confirm the observations of Trollope and Lee as to the presence of "thrombocytopen" in extracts made from spleens obtained from patients with thrombocytopenic purpura, though we have made many attempts. Madison and Squire have emphasized the allergic mechanism in selected patients and believe that if a sufficiently intensive and extensive search is made the offending allergens may be found and allergic management will make splenectomy unnecessary. We fully recognize this etiology in the allergic group of purpuras, but we still find many patients in whom this mechanism cannot be demonstrated and in whom splenectomy has been the only therapeutic answer we have been able to find for their problems.

QUESTION: Have you ever developed any connection between the thymus and the spleen?

DR. DOAN: No. The thymus has received attention in our laboratory from both Dr. Hoster and Dr. Wiseman. The "splenic corpuscles" do not participate in the generalized lymphatic hyper-

plasia that follows foreign protein sensitization, nor do they participate in the lymphocytic hyperplasia in human lymphatic leukemia. Certainly the thymus does not seem to be involved specifically in any of the splenomegalies studied.

DR. J. B. CLINTON: Would you remove the spleen in cases of agranulocytosis where you have ulcerations in the mouth?

DR. DOAN: Not in the Schultz syndrome of agranulocytic angina in which a damaged bone marrow is responsible for the neutropenia. Ulcerations may occur irrespective of the cause of the granulocytopenia. If the history or other cytologic findings do not point the way to the cause, and the spleen is not enlarged clinically, a sternal marrow study and adrenalin test may be necessary to establish the basic mechanism. Only when the spleen is clearly at fault should its removal be advised.

DR. HOLROYD: Are there further questions? If not, we thank you very much, Dr. Doan.

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DEADLY COMBINATION

The proximity of chenille housecoats and open fires should be forbidden by law; few combinations are more dangerous.—French H. Craddock, Jr., M. D., in *J. M. A., Alabama.*

THE EVALUATION OF CARDIAC SYMPTOMS*

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The time honored approach to any diagnosis is a careful history of the patient's illness. The value of this history will depend upon the care with which it is taken, the intelligence of the patient, and an ability on the part of the physician to evaluate the salient features of the history as detailed by the patient. Under the present war time conditions of medical practice, histories are apt to be taken too hurriedly and without attention to the fine details which make the difference betwen a routine summary and an informative narration with some individuality. The ability of the patient to interpret his own symptoms is of great importance and can make taking a history a very satisfactory introduction to the process of making a diagnosis. He should never be hurried and the evolution of his illness will be made much clearer if he is permitted his own choice of words, quaint as they may sometimes be. After a satisfactory history has been taken, however, there remains the task of evaluating the various complaints contained therein, and that of determining the significance of each.

Taking a history in cases of heart disease presents one distinctive problem. There is an element of anxiety consistently encountered in those suspected of having heart disease, particularly if the suspected diagnosis is known to the patient. This anxiety may make it difficult to approximate th eseverity of various symptoms, as all complaints have deadly implications in the minds of these people. Sighing respiration may appear to them as shortness of breath, and dyspnea after climbing two flights of stairs may be considered as evidence of serious heart disease. The most harmless symptoms may be greatly magnified while the serious symptom of substernal discomfort passes as indigestion and is hardly noted.

The evaluation of cardiac symptoms should be atempted with two objectives in mind. The first of these concerns the effort to determine whether or not heart disease is present. This decision may depend upon the realization of the importance of a single symptom. The second objective concerns the problem of determining the degree of heart disease, or, more properly, the functional capacity

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of the heart. The physician should never be satisfied with the mere determination as to whether or not heart disease is present, but in addition he should attempt in all cases to approximate the cardiac reserve—that is, how much work the heart can safely do. He must do this if he is to point out intelligently to the patient the restrictions which he must accept and he certainly must understand this point if he is to undertake to offer a prognosis, which is at best, a hazardous undertaking in heart disease.

Finally, as regards the evaluation of cardiac symptoms, it should be pointed out that the taking of a careful history is still mandatory where heart disease is concerned. In any illness, the assault on the patient with machines, and the drawing of blood has left little time for a history. This is true in heart disease also and the electrocardiogram, the fluoroscope, the venous pressure, the circulation time, and the sedimentation rate may confuse the patient but each serves a useful purpose. However, angina pectoris frequently can be diagnosed only from a careful history, and no two step test yet devised can replace entirely careful consideration of a patient's reaction to tasks which have been a part of his daily routine.

With these various considerations in mind, let us consider a few cardiac symptoms in particular.

PALPITATION

Palpitation or consciousness of the heart beating is the commonest of all cardiac symptoms and at the same time the least important. The patient may be conscious of his heart action because it is rapid and forceful, or because it is slow and forceful. Probably, however, the commonest cause of palpitation is some irregularity of the heart action. This irregularity may be either premature beats, or paroxysmal rapid beating, either regular or irregular. At times patients may complain of a peculiar feeling in the precordium, in the neck, or in the epigastrium which they associate with the heart action, but which, in their minds, is not related to any particular disturbance of the heart rhythm. It may be said definitely that the above disturbances are functional more often than otherwise.

Premature beats may occur at any age, and at times may occur as frequently as after every normal beat. They may be very alarming to the patient, but in the large majority of instances no organic disease will be found. Careful examination, however ,is in order as in older individuals the condition may be associated with organic disease and if the patient is to be reassured he must have been carefully examined before the decision is made as to the importance of this symptom. The paroxysmal cardiac arrhythmias are more alarming and may be associated with far more distressing symptoms. These arrhythmias probably are much more common than has been usualy considered to be the case. Brief attacks of paroxysmal tachycardia and paroxysmal auricular fibrillation occur in many individuals without producing symptoms of a nature severe enough to make certain their presence. Suffice it to say, these conditions have approximately no more significance than premature beats and no heart disease is present in more than 80 per cent of such cases.[1] Paroxysmal auricular fibrillation is slightly more significant than paroxysmal tachycardia, and it must be borne in mind that hyperthyroidism frequently is responsible for paroxysmal auricular fibrillation. Chronic auricular fibrillation and the rare case of auricular flutter are much more often associated with organic heart disease. Mitral stenosis is a classical cause of chronic auricular fibrillation and the arrhythmia will be frequently encountered in elderly individuals, associated with myocardial degeneration, and secondary to hypertension or arteriosclerosis. Even in elderly people with chronic auricular fibrillation, in a surprising number of instances, the condition will be largely functional. It is this fact which explains why many of these patients respond so well to digitalization and may remain compensated for many years.

The patient whose presenting complaint is palpitation will generally be found not to have heart disease. The symptom is alarming, and usually brings the patient to the physician promptly, and if it is properly appreciated and evaluated a great deal of anxiety may be avoided.

PAIN

The symptom of pain must be considered from several angles, and details concerning its nature, relation to exercise and radiation must be sought for in an intelligent fashion and with great persistence. Pain over the chest has come to have serious implications in the mind of the patient and brings him to the physician greatly concerned and frequently desperately alarmed. Patience and careful judgment are warranted because pain may be the presenting and perhaps the only symptom of advanced coronary artery disease.

Pain arising in the heart also may be due to

pericarditis. This occurs as an accompaniment of acute rheumatic fever or as an occasional complication of septic infections. Except for the pain of pericarditis, all cardiac pain will be found to be due to coronary artery disease. Insufficiency of the coronary circulation may produce pain related to exertion or intense emotion and coronary occlusion produces the classical picture now so familiar.

The nature of pain over the chest should serve as an immediate clue to its significance. A sharp stabbing pain, especially if it be aggravated by deep breathing rarely will be found due to heart disease. Pain due to coronary artery disease is typically difficult for the patient to describe. He searches for words and frequently finds none adequate, and simply says that "it is terrible." Usually it will be described by him as being a crushing, squeezing sensation as if he were being pressed or crushed by a heavy weight. At times the patient feels that something is expanding beneath his sternum and that there is need for more room. The pain of angina pectoris is typically substernal in location—at least that region is where it originates. If the patient persists in the activity which has brought on the pain, it classically spreads to the neck and to the arms. If the arm is involved it will be along the inner aspect. Since cardiac pain travels along the sympathetic nervous system, and enters the spine principally at the seventh and eight cervical and first dorsal segments it may be seen that reference of the pain to the outer aspect of the shoulders and arms is unlikely. The most consistent characteristic of pain arising in the coronary artery due to coronary insufficiency but not due to coronary occlusion, is its relation to exertion. This relation is always important and at times may be intimately associated with the extent of the exertion. The patient may walk to the identical spot day after day before the onset of pain. Less exertion may be well tolerated and more exertion cannot be accomplished at all. The pain will be more easily provoked on exertion, after meals, or in cold weather. Evaluation of a pain suspected of being due to angina pectories may be assisted by a trial dose of nitroglycerine, Gr. 1/150, under the tongue. True anginal pain will be frequently benefitted within a few minutes and other types of precordial distress will be rarely affected. What has been said of the pain of angina pectoris can generally be said of that of coronary thrombosis. Except for their relation to exertion, the behavior of the pain is exactly the same. The pain of coronary thrombosis is more apt to be referred to the upper abdomen, to the neck, or to the arms, while that of angina pectoris generally is maximum in the substernal area. That of coronary thrombosis may not involve this area at all.

One can be fairly certain that stabbing, shooting pain at the apex of the heart, aggravated by breathing, occurring at rest, or while lying in bed, is not related to the heart.[2]

DYSPNEA

Dyspnea is the presenting complaint in the final chapter of heart disease, the stage of the failing heart. It is the most logical symptom of an inadequate circulation, is rarely absent, and is readily apparent as the heart struggles to postpone the end. In the insidious early stages of heart failure, however, dyspnea is an extremely variable disorder and must be evaluated with great care. Other evidences of heart disease may not be so apparent at this time to assist in the diagnostic effort and it must be borne in mind that chronic bronchitis, asthma, tuberculosis, emphysema, and fibrotic diseases of the lung may produce dyspnea. Also, the patient's complaint of shortness of breath must not be taken too literally since he or she, and it is more often the latter, is frequently a poor judge of the significance of this symptom.

Dyspnea is typically related to exertion, except in the case of paroxysmal nocturnal dyspnea and orthopnea. This relation is a close one and this point must not be lost sight of, either as a diagnostic criterion or in estimating the patient's cardiac reserve. Frequently patients complain of sighing respiration and the necessity of periodically taking a deep breath, and in doing so clearly reveal their neurosis. To determine the significance of shortness of breath, one should realize that the symptom is remarkably consistent from day to day. It may be increased after meals and in cold weather and is apt to be increased during the exertions of the morning, but generally speaking, the response to effort is consistent. To evaluate dyspnea properly, it is well to determine what has been the patients response to a standard effort. Increased dyspnea in climbing the same hill this year as compared with last year or six months ago may reveal the onset of heart failure. In this instance as well as in the entire problem of evaluating dyspnea,

obesity must be given full consideration, especially if there has been a recent gain in weight. A gain in weight of fifteen to twenty pounds will definitely affect the tolerance to exercise. It is only fair to say, however, that the patient's belief that his shortness of breath is due to being too fat, or to excessive smoking, generally is not reliable and frequently is misleading.

Special consideration should be given to paroxysmal nocturnal dyspnea or cardiac asthma. The appearance of these miserable patients during an attack is consistently the same. First a small cough, which may awaken the patient soon after retiring, then a tickling tracheal wheeze with mucous which refuses to be coughed up. There follows a compelling desire to sit erect and this desire must be satisfied. Breathing becomes more difficult and the chest is filled with wheezing and coarse rales. The patient between gasps complains that the air will not go down into his chest. He is pale, his lips and nails are cyanotic, and he is drenched with cold perspiration. These attacks represent true cardiac emergencies. They are due to acute left ventricular failure and are found associated with aortic valvular disease, especially aortic regurgitation, hypertensive heart disease and after coronary occlusion with cardiac infarction. The occurrence of nocturnal dyspnea means serious heart disease and the prognosis is grave. At times difficulty may arise in differentiating cardiac asthma from bronchial asthma. This will be especially true if the patient has preponderant evidence of bronchial asthma, but in addition some evidence of heart disease. Cardiac asthma rarely persists in a mild form during the day as bronchial asthma may do, but patients with bronchial asthma may be able to lie down during an attack while those with cardiac asthma never can, and, finally, the arm to tongue circulation time usually will be normal in bronchial asthma but delayed in cardiac asthma.

Orthopnea applies to the condition in which a patient, when lying down, finds it necessary to elevate his head and perhaps his shoulders in order to breath comfortably. This condition is associated with heart failure and is usually an early manifestation of this condition. There is frequently evidence of pulmonary congestion and increased venous pressure. The exact mechanism responsible for orthopnea is not clear, but the symptom is a very important one and is helpful in recognizing early cardiac failure, and in estimating improvement or failure to improve in this condition.

INDIGESTION

There are numerous causes for indigestion, and this symptom often is not related to heart disease. However, it is frequently not appreciated as a symptom of heart disease and recognition of the relationship may be very important.

One type of indigestion is that related to coronary artery disease. It has been shown that distention of the stomach causes a reflex spasm of the coronary artery,[3] and it is also likely that the mechanical effect of the well filled stomach may cause cardiac embarrassment. It has been pointed out previously that angina pectoris is provoked much more easily after meals. The patient frequently complains of bloating and distention, and feels that relief of this symptom will relieve his pain and indeed it sometimes does. The most dramatic digestive disturbance associated with coronary artery disease is that which frequently accompanies coronary occlusion. This condition was regularly diagnosed as acute indigestion until recent years. The nausea and vomiting are intense, and since these may be the outstanding symptoms it was not illogical that such a diagnosis was made. The mistake, of course, was a serious one.

Another frequent cause of indigestion is heart failure. Heart failure may produce engorgement of the liver and edema of the gastric mucosa. These may be associated with gaseous distention, heartburn and intolerance for food. These symptoms may be unusually persistent and extremely troublesome. The patient frequently complains bitterly and demands relief. At times he becomes so certain that his primary disease is stomach trouble, that it becomes necessary to make x-rays of this organ before he is convinced. It is well to bear this relation of heart failure to digestive complaints in mind as other evidences of heart disease may not necessarily be readily apparent.

SUMMARY

In summary it may be said that evaluation of cardiac symptoms is most important. Diagnosis of certain heart diseases may depend entirely on the history, and this history cannot be replaced by any known clinical method of examination. This is true not only in making a diagnosis, but particularly true in the matter of estimating the functional capacity of the heart. The various cardiac symptoms

must be weighed carefully in the light of the examiner's past experience. It is especially important to determine the psychic build of the patient and to evaluate his history with this factor in mind. Anxiety often discolors and distorts his interpretation of his symptoms. Upon the completion of a careful history thoughtfully evaluated, the physician should be well along the way toward a correct diagnosis and classification of his patient.

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ANXIETIES AND HYPERTENSION

When considering the symptoms of essential hypertension per se, a curious problem arises. This problem is the difficulty in defining these symptoms. Because of the ease and objectivity of a blood pressure determination, variations from the normal range in both directions came to be an easy explanation of that large series of ill-defined complaints that are usually the expression of emotional disturbances. It is easier to tell an individual that he has a low blood pressure or a high blood pressure than patiently to seek out the worries and stresses of life. It is not surprising, therefore, that an identical set of symptoms has been attached to both hypotension and hypertension. Exhaustion, lack of energy, dizziness, headache, easy fatigue, irritability, insomnia, are a few examples from this group of complaints.

The low blood pressure syndrome is being rapidly discarded, but many patients are treated for hypertension when their symptoms could be relieved by attention to their anxieties or resolution of their conflicts. Indeed, this approach would probably benefit the hypertension itself.

It must be confessed that the anxieties of the hypertensive patient are occasionally caused by the contagious panic of the physician as he reads the blood-pressure apparatus. I have recently seen a dramatic example of this. An entirely symptomless woman visited her physician for a routine check-up; he found hypertension, put her to bed for one month, and restricted her activities thereafter to a painful minimum. When seen eight months later, she had a long list of unpleasant feelings, every one classically neurotic. Stopping her complicated medication, reassuring her, and returning some interest to her life did not cure her hypertension but it removed her from the invalid list.—Dana W. Atchley, M. D., in *New York State Journal of Medicine.*

CUTANEOUS ANTHRAX---DIAGNOSIS AND TREATMENT (WITH CASE REPORT)*

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Anthrax is a relatively rare disease, and although the likelihood of seeing one or more cases in a lifetime of medical practice is quite remote, yet when confronted by a case of this rapidly incapacitating disease, the physician should be prepared to make a prompt diagnosis and institute effective methods of therapy.

A case report and summary of the literature are herein presented for a threefold purpose:

1. To remind the profession that, rare as it is, anthrax does occur and is an ever-threatening menace to those workers in industries dealing with the handling of wool, hair, and hides.
2. To present some of the more salient features in its diagnosis.
3. To review the more successful methods of present day therapy.

It is interesting to note that in a series of 63 cases reported between 1931 and 1940, 20.6 per cent occurred among truckers, stevedores, and others in no way employed by industries in which furs and hides were handled directly.[1] The occurrence of anthrax outside of industry imposes a greater responsibility on nonindustrial physicians to become thoroughly familiar with its clinical manifestations.

CASE REPORT

G. S., a 42 year old white male, was admitted to the Davis Memorial Hospital on September 6, 1944, complaining of painful swelling of the right forearm and upper arm of three days' duration. On September 3rd, three days prior to admission, the patient awoke with generalized malaise and a slightly painful swelling of the right forearm. He noted a small dark bleb on his forearm, but attributed this to some insect bite which he believed he had sustained during the night. His local physician advised warm soaks for the lesion. The patient felt quite ill, feverish, and remained in bed. During the next two days, in spite of bed rest, soaks to the forearm, and sulfanilamide administration, his condition became worse. The swelling extended further along the arm and forearm and the

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local lesion became somewhat painful and greenish-black in color. On September 5th, the day prior to admission, the local physician incised the bleb and a gray-green fluid exuded. In spite of incision and drainage, the bleb spread, the swelling of the arm and forearm increased, and the entire extremity became red and hot. The patient became much weaker and hospitalization was advised.

Past history was essentially noncontributory. The patient was employed in the finishing department of a woolen mill, and his work consisted of scouring and fulling pieces of woven cloth after they had come off the loom. In this process, he handled the woven cloth.

PHYSICAL EXAMINATION

The patient was a well developed, well nourished white male, appearing acutely ill, prostrate, apprehensive, and perspiring profusely. Temperature 99 F.; pulse 120; respiration 20; blood pressure 148, systolic, and 92 diastolic.

Head—No abnormalities.

Eyes, Ears, Nose, and Throat—Teeth carious; tongue dry; small nevus over the right upper eyelid.

Neck—No adenopathy, masses, or rigidity.

Lungs—Clear to percussion and auscultation.

Heart—Not enlarged; sounds of good quality; no murmurs heard; sinus tachycardia.

Abdomen—Soft throughout; no tenderness, rigidity, or masses; liver, spleen, kidneys not felt.

Neurological—Reflexes slightly hyperactive.

Extremities—There was extensive swelling and redness of the right upper forearm and elbow. Over the anterolateral surface of the upper forearm, there was a large, open bleb, from which a thin, cloudy, serous fluid was exuding. In some areas, the bleb appeared gray-black in color; in other areas, it had a silvery appearance. A few red streaks extended upward on the arm, but there was no epitrochlear, axillary, or supraclavicular adenopathy. The entire forearm, down to the wrist, was markedly indurated and firm. There was minimal tenderness over this entire area, which appeared to have an angry-red to purplish hue.

It was interesting to note that, in the course of examination, the patient made the comment that he had some difficulty in swallowing, that his throat seemed dry, and that food went down with great difficulty. There were no objective signs present to indicate the etiology of this complaint, nor was there any previous history of such complaint.

Laboratory Data—Urinalysis, color, dark amber; specific gravity, 1020; pH 7; albumen (2 plus); glucose, negative; microscopic examination, negative. Blood, hemoglobin 104 per cent; erythrocytes, 5,200,000; leukocytes, 7,800; polymorphonuclear 77 per cent; lymphocytes 22 per cent; monocytes 1 per cent. Hinton and Kolmer blood serology tests were negative.

Smear from the lesions revealed *Staphylococcus aureus* throughout, although one slide revealed a few organisms highly suggestive of Bacillus anthracis. The *Staph. aureus* was found in all cultures of the lesions.

Treatment and course—In view of the profound toxicity, prostration, the dark and silvery appearance of the bleb, and the history of the occupation associated with the handling of wool, a diagnosis was made of "malignant pustule" or cutaneous anthrax. The patient was given supportive therapy, high liquid diet, and eighteen hours after admission, anthrax antiserum was instituted. He was given 10 cc. intramuscularly every two hours, for a total of 100 cc. Although penicillin was considered of questionable value in this case, it was decided to administer it so as to deny the patient no possible therapeutic agent. This was given in doses of 10,000 units every two hours for a total dose of 100,000 units.

In spite of therapy, the patient continued progressively worse. His mental reactions were of interest. At times, he semeed fully aware of his surroundings; at other times he became somewhat disoriented, irrational, and had loss of memory.

His temperature rose to, and remained at, 103 F. Plasma was given to supplement his dietary intake. Respirations became labored; the patient became weaker, lapsed into coma, and expired, fifty-eight hours after admission.

DIAGNOSIS

Ideally, the diagnosis of anthrax should be made by demonstration of the causative organism, *B. anthracis*, in a direct smear of the lesion, isolation of the organism in pure culture, and demonstration of pathogenicity by animal inoculation. Practically, this is not always possible.[2 3] Often, an unsuspecting physician will perform an incision and drainage of an anthrax bleb. Subsequent bacteriological examination of such a lesion may yield only pure cultures of *Staph. aureus*, a secondary invader.[4] Thus, one must be guided by the clinical manifestations of the disease, although

every effort should be made to obtain bacteriological confirmation.

The anthrax bacillus does not invade the healthy skin and so one must postulate some break in the surface before infection can take place. This trauma, however, is often so slight as almost to escape the attention of the patient. Thus, a history of trauma may not be obtainable.[5]

The incubation period varies considerably, from eight hours to six days. The earliest manifestation is a small, painless papule, which itches intensely. Within ten to twenty-four hours, the papule enlarges and shows a surrounding area of erythema, along the borders of which small vesicles appear. As the lesion progresses, some of these vesicles may coalesce. During the next twenty-four to forty-eight hours, the papule becomes dark brown to black, hemorrhagic, and forms a tough, dry eschar. The vesicles progress and subsequently become dark and hemorrhagic. The surface of these vesicles shows a glistening silvery appearance. Within three to five days, these vesicles may rupture spontaneously and exude a thick fluid. A crust, and later an eschar, then form.

Two prominent characteristics serve to distinguish the lesion of anthrax from furuncle, carbuncle, or other such lesions, namely:

1. The very widespread and extensive edema and induration, seemingly far out of proportion to the size of the local lesion.
2. The relative absence of pain and tenderness in spite of the "angry-red" appearance of the area surrounding the lesion.

The edema may be so widespread, that often in lesions involving the face or upper part of the neck, there may be redness and induration extending back down the neck and on to most of the chest.[6] In such cases, an accompanying involvement of the deeper tissues of the neck leads to difficulty in swallowing and breathing. Interestingly enough ,though, patients with lesions on the extremities often have difficulty in breathing and swallowing, in spite of no apparent involvement of the larynx or pharynx. [6 7]

TREATMENT

The dark, hemorrhagic, and almost gangrenous appearance of the cutaneous lesions of anthrax created a desire among earlier physicians to rid the body completely of this lesion, and so the earliest treatment consisted of its total excision. Subsequent studies have revealed that by the time the cutaneous lesion becomes dark, the organisms have penetrated deeply into the tissues, and excision serves only to open up new channels for their further dissemination. Thus often, following excision of the local lesion, patients showed a rapid generalized progress of the disease, resulting in death. Although an occasional report is presented of recovery following excision, this method has been for the most part discarded.[8]

Incision and drainage of the large coalesced vesicles often has been performed, only to be followed by rapid progress of the disease, and so this method, too, has been discarded.

Careful studies have revealed that it is best to elevate the affected part, put it at rest, and apply sterile dressings to the local lesion. *No local surgery* of any sort should be performed on the local lesion.

Three main methods of therapy have met with good results. These include the use of anthrax antiserum, neoarsphenamine, and the sulfonamides. These have been used alone or in combination.

SERUM

Some investigators have suggested the local injection of the antiserum around the lesion [9], but this has been discarded for the most part, because this, too, has the danger of opening new channels for dissemination of the organisms.

Intravenous administration of antiserum has proven to be a reliable and dependable form of therapy.[10 11 12 13 14 15 16 17] It must be given in large daily doses and continued until the disease is under control. Individual large doses have proven superior to repeated small doses. As soon as the diagnosis is made, the patient should be given 100 to 150 cc. of antiserum intravenously. This should be repeated every twelve to twenty-four hours, until the patient shows improvement. The best criterion for determining the adequacy of the dose of serum is the control of the edema around the local lesion. If, at the end of twelve to twenty-four hours after the initial dose, the edema continues to progress, then the initial dose was not adequate and a larger dose must be given. If the edema ceases to spread and begins to subside, then the initial dose should be repeated in twelve to twenty-four hours. The size of the dose and frequency of administration must be determined by the severity of the disease and its clinical course. In extremely toxic cases, and in those in which a positive blood culture is obtained, as much as

200 cc. of antiserum is given intravenously every three hours until the culture is negative. The best time to cease administration of serum is when the temperature, pulse, and white blood count have returned to normal. Serum sickness usually develops, and this is to be expected in view of the large amount of serum injected. Cases have been reported in which patients have rceeived as much as 1000 cc. in a single injection, with total dosage as high as 2200 cc. The average dose of serum for treating a case is about 800 cc.

The only difficulty with the use of serum is that it is not always immediately available.

NEOARSPHENAMINE

This drug has been found fairly effective when given in doses of 0.6 grams every twenty-four hours.[10 14 15 17 18] If there is no effect within the first twelve hours after the initial dose, a second dose should be given at this time. Then 0.6 to 0.9 grams should be given every twenty-four hours until the disease is under control. The average total dose of this drug is about 2.3 grams. Although some investigators have found satisfactory results with neoarsphenamine, nevertheless, for very sick patients, or for those in whom there is some doubt as to the efficacy of this drug, the antiserum or the sulfonamides should be used.

SULFONAMIDES

A carefully controlled study has revealed that the sulfonamides are a reliable and safe substitute for antiserum in the treatment of anthrax.[13 15 18 19 20] A comparative study of the various compounds of this group has revealed sulfapyridine to be most effective. Sulfathiazole and sulfadiazine, although not as dramatic and prompt in their effect as sulfapyridine, have been found to be definitely efficacious in controlling the disease. These have been favored because of their lesser toxicity.

An initial dose of three grams is given, followed by 1 to 1.5 grams every three to four hours. Total doses necessary for controlling the disease have varied from 15 to 50 grams, with an average of 30 grams. If there is no definite response or improvement with the sulfonamides in twenty-four to forty-eight hours, serum should be given in large doses consisting of 300 to 500 cc. at a time.

PENICILLIN

Penicillin has proven of value in controlling experimentally produced anthrax in mice. However, its clinical value in humans has not been given adequate trial from which one might draw any conclusions.[21]

COMMENT

A few interesting comments might be made regarding the case herein presented. The failure of the local physician to recognize the specifity of the lesions led to incision and drainage of the initial bleb. This undoubtedly led to further dissemination of the organisms. Fortunately, however, this patient was given some sulfanilamide which may have somewhat counterbalanced the effects of the incision.

With regard to diagnosis, it must be admitted that all bacteriological studies of the lesion showed *Staph. aureus* in direct smears and cultures of the lesion. In only one smear, taken directly from the lesion, were a few organisms seen suggestive of *B. anthracis*. However, in the opinion of the bacteriologist, these were not sufficient to justify a positive diagnosis. In this failure to obtain bacteriological confirmation of the diagnosis we are not alone, for others have reported similar findings, particularly when there had been a previous incision and drainage. However, on the basis of the clinical manifestations of the disease, specific anti-anthrax therapy was instituted. In retrospect, in view of the more recent literature which we have obtained on the subject, this patient apparently did not receive adequate doses of serum. Had this information been readily available, he undoubtedly would have received larger doses, with possibly more favorable outcome. For this reason, we have felt it advisable to present this case and to review the more recent successful methods of therapy, with the recommended dosages, so as to avert any possible recurrence of such an outcome.

SUMMARY AND CONCLUSIONS

If repetition will lend emphasis to certain points, then it should be pointed out that prompt diagnosis and therapy are essential in anthrax. A patient with a history of possible contact, with a clinically characteristic lesion, even in the absence of definite bacteriological confirmation, should be treated for anthrax.

Antiserum or sulfathiazole are the treatments of choice, and there should be absolutely no surgical manipulation of the local lesion.

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TIME ELEMENT IN NEPHRITIS

It is important to remember that the 60 per cent of patients with acute hemorrhagic nephritis who recover almost invariably do so within four months of onset. Prolongation of an active process beyond this time leads with few exceptions to a permanent and ultimately fatal lesion. There is a natural tendency to dismiss the patient at that period following the acute onset when clinical symptoms have disappeared. At this stage, however, an Addis study will show renal irritation still present, and continued medical care is needed. To return a nephritic at this period to a normal life, where he will encounter fatigue, chilling, and exposure to infections will certainly tend to prolong the activity of his lesion beyond the four-month period and so diminish his chances of complete recovery.—Wm. P. Belk, M. D., in *Delaware St. Med. J.*

PSYCHIATRY RELATIVELY NEW

Psychiatry as a specialty of medicine is relatively new. To be sure, the mentally ill have been with us from the dawn of recorded history, and from the fourteenth century on there have been institutions of a sort at least for the care of the most seriously deranged. These receptacles were considered and called asylums, that is, entirely custodial institutions; they were often under the charge of non-medical persons, and the "care" of the inmates was lamentable indeed. Patients were chained to the walls, little or no attempt was made to warm the rooms, food was thrown to the patients, and there was no attempt at segregation of the sexes. It is not strange that the word Bedlam, originally the name of the oldest English institution (a corruption of Bethlehem) has come to mean "a scene fo wild uproar and confusion."

Although physicians were interested in the physical ills, consideration of what we should now term mental disease was left to the philosophers and to the theologians. Thanks to the medieval confusion of "mind" with "soul," mental disorder was the subject of philosophical speculation rather than of clinical observation, and the care of the mental ill was not considered as a medical problem. Pinel, the great French physician of the Bicetre in Paris, who in 1792 scandalized the Parisian by striking the shackles from the inmates of that institution, is the man to whom credit should go for beginning the clinical study of mental disease.—Winfred Overholser, M. D., Sc. D., in *Virginia Medical Monthly.*

ALLERGY HERE TO STAY

What is allergy? The word comes from the Greek meaning altered reactivity. It was first applied by von Pirquet in 1906 and indicates a reversible reaction in the tissues, the pathological changes of which are transient, seldom seen post-mortem, and not limited to any one organ. Allergy is a symptom-complex which may be inherited or acquired actively. Active sensitization can be produced through the intact intestinal tract, the skin, or the respiratory tract, though most often there is a history of previous exposure.

For one to understand allergy it is necessary to know general medicine, immunology, psychiatry, bacteriology, mycology, physiology, pathology, and botany. This is a great deal to expect of one person, so it is necessary to incorporate the knowledge gleaned from each branch into one, and to obtain cooperation between all to do our best work.—Katherine B. MacInnis, M. D., in Southern Med.

The President's Page

The writer is in receipt of a letter from the Office of Naval Officer Procurement, Washington, D. C., asking that an appeal be made to the doctors of West Virginia to enlist in the Navy Medical Corps. The Navy badly needs 3,000 additional doctors. The age limits and qualifications have been materially changed. Physical requirements have been somewhat modified. Physicians are now accepted up to the age of 60 years. Those in the older groups are assigned to hospitals, dispensaries, and other Naval activities ashore.

Physical defects which are organic constitute a cause for rejection. However, certain defects, such as variation in height, weight, and defective vision, which were formerly disqualifying, can be waived.

All over the world Navy doctors are exposed to a training in medicine and surgery which is not only giving them a splendid chance patriotically to serve their country, but at the same time, an opportunity to learn the most advanced techniques of the profession, working with men whose contribution to the field of medicine will be great both during and after the war. It is, therefore, earnestly requested that every physician conscientiously study the medical needs of his community, his responsibility to that community and to the war itself, to ascertain whether or not it is best for him to seek a commission in the United States Navy. Any physician who is interested may contact the Office of Naval Officer Procurement, 1320 G Street N. W., Washington, D. C.

It seems ironical for the Selective Service to have refused to defer premedical and predental students and now for the Navy to make such an appeal for physicians. I quote from a special bulletin with reference to the Ellender Bill, S.637, providing for the deferment of premedical and predental students:

> "The present policies of governmental agencies regarding the supply of medical students is such that we shall be faced with a drastic reduction in the number of physicians after the war. Today the lack of provisions for the training of doctors is such that we may anticipate that many hospitals constructed under this bill, if it is passed, will have no physicians to man them."

> "In 1944 Army and Navy students entering our medical schools constituted 80 per cent of the entering classes. Twenty per cent were selected from civilan sources. It was becoming increasingly difficult for admissions committees to secure even this small percentage of qualified civilians from the sources available. In the year 1945 only about 53 per cent of the entering students will be Army or Navy students, increasing to 47 per cent the numbers which must be obtained from civilian sources. In 1946 there will be no Army students, and only approximately 10 per cent of the entering freshmen will be under auspices of the Navy. This increases those to be obtained from civilian sources to 90 per cent of the entering classes. One of two consequences is inevitable. Either the students will be of far poorer quality or they will be far fewer in number. We cannot afford either alternative. It will be impossible to obtain these large numbers of students from the category of men under 17, physically disqualified men, veterans and women. At the present time there is an utterly inadequate number of qualified individuals entering premedical training."

I urge the members of the State Medical Association to contact our Congressmen and Senators, urging them to use their influence for favorable action on the Ellender bill (S.637), providing for the deferment of premedical and predental students.

Thomas R. Harris

President.

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OUR PSYCHOSOMATIC PROBLEMS

It is well that our State Medical Association has taken cognizance of the increasing magnitude of the problems of psychiatric medicine and has appointed a psychiatric committee to outline a program by which the medical profession can meet this challenge as it presents itself in West Virginia. Dr. Oscar B. Biern is chairman of this committee which is doing real pioneer work. The questionnaire which was sent to every member of the state medcial association has disclosed on the part of the profession a definite appreciation of the gravity of the problem and an earnest desire to meet it.

Most of the references in the current literature stress the subject because of the returning veterans. The veteran, of course, looms large in the picture, but he presents only one phase of the subject. As a matter of fact, the civilian segment of the population accounts for a much larger volume of neuropsychiatric medicine than does the veteran component of the body politic. Weiss and English, presumably discussing the civilian population, estimate that one-third of all patients fall within the domain of psychosomatic medcine and "that still another third of all patients have emotional factors which complicate and add to the burden of their physical disease." Menninger believes that one-half of all patients who consult physicians are either frankly psychiatric or have psychosomatic difficulties.

The West Virginia questionnaire and its results have been very favorably received by leading phychiatrists all over the country. Dr. Karl M. Bowman, President of the American Phychiatric Association, writes: "I am much interested in the questionnaire which you have sent out to all the physicians of West Vriginia . . . The work which your committee is doing is of basic importance and those of us in psychiatry have felt for a long time that there should be more understanding of the principles of psychiatry and the relationship of emotional problems to physical complaints . . . The American Psychiatric Association approves of any attempt to develop psychiatric interest or knowledge along the lines you have suggested."

Dr. R. H. Felix, Chief Mental Hygiene Division, U. S. P. H. S., in a letter to Dr. Biern, outlines succinctly the gist of a program which should fit in well in West Virginia: "My attitude is not to try to make psychiatrists out of the internist, surgeon, etc., but to assist our colleagues in other specialties in gaining enough insight into the phenomena with which we deal in psychiatry so that they can handle the 'mine run' of psychoneurotic cases which present themselves at the doctor's office."

One of the most illuminating articles we have seen upon this subject is Col. Wm. C. Menninger's "Perspectives of Psychiatry" in the February issue of Annals of Internal Medicine. His second paragraph is so striking that we quote it entirely:

"It is not merely a figure of speech to state that we are experiencing a worldwide psychosis. If we are to include in the concept of health, the mental status of an individual, never in the world's history have we had such an unhealthy state. Just as a widespread serious epidemic of a fatal disease commands the attention of all organized medicine, so should the present advanced mental disease of the world arrest all organized medicine. Furthermore, this state of affairs should not merely arrest our attention, but should command our united attack upon the causes, the symptomatology, the treatment, and ultimately the prevention."

Definite work is being done toward remedying the situation now confronting us. Our own Psychiatric Committee hopes to present the West Virginia profession with postgraduate instruction through the local medical societies. The Temple University Medical School is giving a postgraduate

course in psychosomatic medicine during the month of June, and it is very encouraging to run through the tables of contents of the various medical journals and note the increasing number of articles on the psychic aspects of medicine. Certainly the psychosomatic field offers us a compelling challenge.

We congratulate Dr. Biern and his committee upon the start they have made and extend to them our best wishes for a successful conclusion of the program they have outlined for the improvement of the mental health of our populace.

A FITTING APPOINTMENT

Governor Meadows recently appointed Dr. Thomas L. Harris, president of the State Medical Association, to the board of governors of West Virginia University. The board of governors has been in existence for almost twenty years and this is the first time that a physician has been appointed to this distinguished body. This is indeed a singular honor for Dr. Harris and he is to be congratulated.

It is quite fitting that a representative of the West Virginia State Medical Association be chosen to aid in formulating the policy and in guiding the destinies of our state university. A number of practical reasons could be given why a physician should be a member of the board of governors. To mention a few, during normal times, in addition to predental and prenursing students, there are about 385 premedical students regularly enrolled. These constitute no small percentage of the total student body. The university, moreover, has for more than forty years offered the first two years of the medical curriculum. The university also maintains a student health service, which serves the entire institution and offers the students the benefits of modern medical science.

Besides these practical reasons, there are also intangible ones, which are no less important even though they cannot be so accurately defined. It is not necessary to dwell upon these; suffice it to say that a physician, by the very nature of his work, is eminently qualified to understand human relations. His counsel should be of special value in dealing with matters which concern the welfare of youth. The doctors of West Virginia have reason to feel that Governor Meadows has made a happy choice in selecting as a member of the board of governors a capable and highly respected member of the profession.

MORE PHYCIATRISTS NEEDED

More doctors are needed to specialize in mental illness. People do not know enough about mental and nervous troubles. They are inclined to lump them all as some form of insanity, which most of them definitely are not. Many are curable—but, like measles, people will suffer and die from them until more doctors find out about proper treatment of these diseases.

Why are there not more doctors going into this branch of medicine? First, because there are not enough good teachers in it. Second, because it costs too much and takes too long for the average young doctor to get into it.

The medical student must first go to school and college, then to post-graduate medical school. Next he must serve as an intern in a hospital where he may be paid inadequately. He is almost 30 years old when he is ready for general practice. He has never made enough to marry on. If he goes into mental practice, there are still some meagerly paid years to go through. There will be plenty of work when he is ready, but how is he going to finance the years between?

Some really deep thinking is called for on this subject.—*Charleston Gazette.*

REPORTING VD CASES

The recently enacted "Prenatal Law" is the legislative corner-stone upon which an effective venereal disease control program for West Virginia can be built. The war on the venereal diseases is a very complex one which must be fought by a great proportion of the population.

The main fronts upon which the battle must be waged are the medical, educational, social, economic, moral, legislative and law enforcement. In this state, at the present time, the legislative front is the only one where the battle may be said to have been won. The medical section, while in the next most satisfactory condition, cannot yet be said to be under control. As the group which as a whole certainly has the best knowledge on the subject, the private practitioners and public health workers comprising the forces on the medical front should be the next to win their portion of the struggle.

It is not our desire to cover the entire battle front here but merely to point out one way in which our part can be improved by the utilization

of good weapons now at hand. The legislature in 1921 passed a law requiring that the venereal diseases be reported. Of all its legal obligations the medical profession has probably complied with this one to the least extent.

The reporting of venereal diseases, serving as the intelligence division of the health departments, is a vital part of the control program and the physicians of this state should assume their responsibility along this line. Only by good reporting can the incidence and prevalence of these diseases be determined and only with this knowledge can a control program be soundly planned. It is obvious that only with knowledge of where and in what numbers an enemy is located can an attack be intelligently planned. Further, only by month-to-month and year-to-year comparisons can methods of attack be analyzed as to their efficacy. The fact that use of this important weapon has been minimal is borne out by the following figures: From September, 1944, through February, 1945, only 537 cases of primary and secondary syphilis were reported from all reporting sources in the state. During this same period, 521 such cases were treated at the Kanawha Valley Medical Center alone. Estimates as to the expected incidence of syphilis for this same period as reported in the Biennial Report of the Bureau of Venereal Diseases for the fiscal years 1943 and 1944 indicate that 1,215 such cases could have been anticipated.

Information regarding the proper procedure to be used may always be obtained through the local health department or the bureau of venereal disease control of the state health department. We strongly urge, therefore, that the members of the medical profession become full fledged members of our intelligence arm by meticulously reporting the venereal diseases so that the war on these diseases, at least on our particular salient, may be successfully prosecuted.

THEY SHOULD BE HEARD

Advocates of state controlled medical care like to point to rapidly expanding voluntary prepared medical programs and infer that the sudden action of medicine to broaden medical service is nothing more than the result of a psychological kick in the pants—threatened government domination.

Perhaps the doctors have moved more rapidly in attempts to perfect various health plans than would have been the case had they not realized that state medicine was a rising threat to present high medical standards. In some cases they have probably moved too rapidly from the standpoint of good medical care. They are frankly fighting against time to save a medical system which they feel has given this country much and will give it still more if given the opportunity.

If it had not been for the unflagging interest of the American medical profession in the cause of scientific progress, there would be no controversy today over the question of how medical care should be administered. There would be nothing to administer! It is precisely because medical men have sought through the centuries for solutions to the mysteries of disease and death, that mankind has in its possession a priceless store of medical knowledge. The doctors apply this knowledge to the benefit of the people as broadly as they know how. Not until a comparatively recent time did the health of the people under progressive scientific advancement reach the point where it was an insurable risk. And now that it has reached that point, those who helped put it there, should have a voice in solving problems of medical care.—*Fairmont West Vriginian.*

HOSPITAL ASSOCIATION TO MEET

The annual meeting of the Hospital Association of West Virginia will be held at the Daniel Boone Hotel, Charleston, Thursday, May 3. This will mark the first time in several years that the meeting has been held at a time other than during the Carolinas-Virginias conference. Dr. A. F. Lawson, of Weston, is president of the association, and will preside at the May meeting.

1945 HONOR ROLL

The following additional component societies of the State Medical Association have reported a 100 percent paid-up membership as of April 20: Harrison, Wood, Logan, Central West Virginia, Raleigh, Kanawha, Mason, E. Panhandle and Mingo. The following societies had previously reported a 100 per cent payment of dues: Taylor, Wetzel, Wyoming, Potomac Valley, Marshall and Hancock.

RELOCATIONS

Dr. Maurice H. Maxwell, formerly of Elkins, is now engaged in industrial practice at Red Jacket.

* * * *

Dr. Robert A. Houston, of Elkins, has located for the practice of medicine at Sunbury, Pennsylvania.

* * * *

Dr. J. B. Traul, who was formerly in industrial practice at Logan and Ward, is now located at Mansfield, Ohio.

General News

PRENATAL LAW REQUIRES CHANGE IN FORM OF BIRTH CERTIFICATES

The enactment of the "prenatal law" at the regular session of the legislature, requiring pregnant women residents in West Virginia to under a serologic test for syphilis, has necessitated some changes in birth and still-birth certificates. A supply of the new certificates will be mailed to each doctor and registrar in West Virginia before June 3, the date the law becomes effective. The distribution will be under the supervision of Dr. John C. Hume, acting director of the bureau of venereal disease.

A new type of laboratory slip will be distributed directly to doctors. In addition, each approved laboratory will be given an adequate supply. Laboratories heretofore approved for the performance of premarital serologic tests for syphilis will also be approved for prenatal tests. A list of approved laboratories may be obtained from the bureau or the state hygienic laboratory.

The principal provisions of the new law are as follows:

Every pregnant woman resident in West Virginia must have a sample of blood taken and submitted to the West Virginia Hygienic Laboratory or other approved labroatories, which will perform the standard serologic test for syphilis approved by the state health commissioner.

As soon as the attending physician has reasonable grounds for suspecting that pregnancy exists, he shall acquaint the woman with the provisions of the law and take or have taken a specimen of blood to be submitted for the performance of the test. If the woman is in a stage of labor or gestation when first seen, which may make the drawing of the specimen inadvisable, the specimen must be obtained within ten days following delivery.

The state hygienic laboratory will, upon request, perform the serologic test without charge. It is the duty of the county and district health officers, upon request, to draw blood specimens for this purpose without charge, and where district or county health officers are not available, the state health department will assume the responsibility of obtaining the specimens without charge to the patient. Specimens of blood taken by physicians are to be identified as being from women pregnant or suspected of being pregnant. The laboratory must provide a report in triplicate on forms furnished by the state health department. The original report is to be sent to the physician submitting the specimen, the duplicate forwarded to the state health department during the week that the test was performed, and the triplicate retained in the laboratory files. All laboratory reports are to be confidential and not open to public inspection.

Each physician must state on the birth certificate whether a blood test was performed during pregnancy. If the test was made, the name of the test or tests used, the date, and the name of the laboratory must be stated. If the test was not made, the reason or reasons therefor, must be stated. In no event will the result of the test be shown on the birth certificate.

Physicians or laboratory representatives who violate the law are subject to indictment for a misdemeanor and, upon conviction, may be fined from $10.00 to $50.00.

INTERIM COMMITTEE NAMED

A legislative interim committee, created for the purpose of making an overall study of public health problems, including medical and hospital care, medical care at state institutions, medical education, and prepayment hospital and medical service plans, has been named by Arnold Vickers, president of the Senate, and John E. Amos, speaker of the House of Delegates.

The Senate Committee is composed of W. Broughton Johnston, Princeton; Fred C. Allen, Marlinton; Glen Jackson, Logan; G. O. Young, Buckhannon; and H. S. Boreman, Parkersburg. The House members are J. Hornor Davis, Charleston; J. Harper Meredith, Fairmont; Rush D. Holt, Weston; Everett F. Moore, Moundsville; and O. C. Hathaway, Grantsville. Speaker Amos and President Vickers will serve as members and ex officio chairman and co-chairman, respectively.

An advisory committee, of which five members will be doctors, will shortly be appointed by Governor Clarence W. Meadows to serve with the legislative interim committee in this study of public health problems.

MORE DOCTORS RETURN

Major Donald M. Post (MC), who has been stationed at Fort Lewis, Washington, for several months has received an honorable discharge, and has returned to civilian practice at his home in Morgantown. During his 51 months in the service, Major Post has seen service at Fort Benjamin Harrison, Indiana; Fort Ray, Alaska; and, Fort Worden, Washington. Major Post writes that during all of his travels during the past four years, he has seen but few West Virginia doctors.

According to a release from the Office of the Surgeon General of the Army, Dr. William Berl Wright, of Clarksburg, has been given an honorable discharge from the medical corps of the army.

Major J. C. Ford, of Huntington, who has been in the Army Medical Corps since 1941, has been given an honorable discharge and has returned to civilian practice at Huntington, where he is located in the West Virginia Building. Major Ford has seen service in the canal zone, and has recently been assigned to the Army Ground and Service Forces, Redistribution Station, at Miami Beach, Florida.

MEETING OF COUNCIL

The Spring meeting of the council is being held at Parkersburg as this issue of the Journal is on the press (April 29). This meeting takes the place of the one usually scheduled for the eve of the annual convention.

HOUSE OF DELEGATES CALLED TO MEET AT CLARKSBURG MONDAY MAY 14

Proposal by the Council for a one-day streamlined meeting of the House of Delegates to elect officers and transact necessary business has been ratified by all component societies which have held meetings during the month of April.

The meeting will be held at the Waldo Hotel, Clarksburg, May 14, beginning at 10 A. M., and it is planned to adjourn in time for all delegates to return home that same day. This is the date originally fixed by the scientific work committee for the opening of the 78th annual meeting, which was canceled when the War Conventions Committee rejected the application of the State Medical Association to hold the convention as scheduled.

Besides the election of officers, councillors and A. M. A. delegates, for 1946, the delegates will elect certain Association committees and select a convention city for 1946. In addition, the delegates will vote on amendments to the constitution proposed at the annual meeting held in Wheeling in 1944. The amendments proposed are as follows:

Article VI, Section I. Amend first sentence to read as follows: "The Council shall consist of the Councillors, and the President, Vice Presidents, and Treasurer *ex officio*."

(The two vice presidents are not now members *ex officio* of the Council.)

Article VIII, Section 2. Amend by striking out section 2 and inserting in lieu thereof the following: "Section 2. The place for holding each annual session of the association shall be selected by the House of Delegates and the date fixed by the Council."

(This section now provides that the date shall be "designated by the committee on arrangements representing the component society that is to entertain this association.")

Article IX, Section 3. Amend by striking out the section and inserting in lieu thereof the following: "Section 3. Officers of this Association shall be elected by the House of Delegates at each annual meeting."

(Under the section now in force, officers must be elected "on the evening of the first day of the annual session, immediately following the president's address.")

Article XI, Section I. Delete first two sentences and insert in lieu thereof the following: "Section I Funds shall be raised by an annual per capita assessment of dues against members of the Association. Dues in the amount of $15 shall be paid by each such member provided by the By Laws."

(The first two sentences in this section now read as follows: "Funds shall be raised by an equal *per capita* assessment on each component society. The amount of this assessment shall be fixed by the House of Delegates, but shall not exceed the sum of Ten Dollars ($10.00) *per capita per annum*, except on a four-fifths votes of the delegates present.")

As this issue of the Journal goes to press, less than half of the component societies have certified their lists of delegates and alternates to the headquarters offices. A large number of the societies will not elect delegates until meetings to be held the latter part of April or the first of May.

Dr .Thomas L. Harris, president of the West Virginia State Medical Association, will preside at the session of the House of Delegates. The meeting will be strictly for the transaction of association business, and no entertainment features are planned. The Scientific Work Committee, composed of Drs. James L. Wade, chairman, and Hampton St. Clair and Frank V. Langfitt, had arranged a most interesting program for the annual meeting, and Dr. Hu Myers, chairman of the Committee on Scientific Exhibit, had also completed plans for an elaborate display at Clarksburg when the annual meeting was canceled.

The local committee on arrangements, composed of Drs. C. O. Post, chairman, and J. E. Wilson and Frank V. Langfitt, of Clarksburg, will continue to serve in this capacity through the meeting of the House of Delegates. Members of the Harrison County Medical Society which was to have been the official host for the meeting this year, are working with this committee to help make the business meeting of the House of Delegates a success.

DR. PEYTON ROUS AT MORGANTOWN

Dr. Peyton Rous, of the Rockefeller Institute for Medical Research, New York City, and a leader in the field of cancer research, will deliver a Sigma Xi lecture at Reynolds Hall Auditorium, West Virginia University, Morgantown, May 3, at 8:00 P. M. Dr. J. L. Cartledge, secretary of the West Virginia University Chapter, has extended an invitation to the members of the West Virginia State Medical Association to attend the lecture. Doctor Rous is an authority on cancer research. He received his M. D. degree from Johns Hopkins Hospital, has an honorary degree of doctor of science from Cambridge University, and has received recognition and many other honors for his work in cancer research.

MEDICAL SERVICE PLAN AT WHEELING

A prepayment medical insurance plan covering surgical and obstetrical fees was approved by the Ohio County Medical Society at a recent meeting held in Wheeling. The plan will give full coverage to the low income group and will operate on an indemnity basis for those with higher incomes.

The board of directors will be composed of six physicians and three laymen. The society has appointed the following physicians to serve as members of the board: Drs. W. P. Sammons, Howard T. Phillips, Earl Phillips, E. S. Bippus, S. W. Tretheway and D. A. McGregor, all of Wheeling.

DOCTORS LICENSED BY PHC

The public health council has announced that the following doctors have been licensed to practice medicine in West Virginia as the result of the examination conducted at Charleston, February 26-28:

Joseph Marion Straughan, Charleston; Burke Edward Schoensee, White Sulphur Springs; Melville Homer Cummings, Jr., Montgomery; Seymour William Meyer, Elkins; and Nicholas Faris Sabbagh, Sophia.

SEMINARS IN PSYCHIATRIC STUDIES PLANNED FOR COUNCILLOR DISTRICTS

A plan for holding seminars in psychiatric studies in the councillor districts is being considered by the psychiatric committee appointed recently by Dr. Thomas L. Harris, president of the State Medical Association. Dr. O. B. Biern, of Huntington, chairman of the committee, has been authorized to contact officers of the 29 component societies to ascertain what societies will sponsor a series of meetings for a study of psychiatry as it affects the general practitioner.

It is proposed to present clinical material at these meetings as the best means of teaching general practitioners what to look for and how best to handle cases that might come to their attention for care in the future.

At a meeting of the committee held at Huntington April 15, the members considered at length the work that lies ahead, not only for the committee but for the medical profession at large. Letters have been received by Doctor Biern from various parts of the United States expressing interest in the outcome of the experiment in psychiatric study here in West Virginia.

Capt. John P. Lambert (MC) expressed the opinion that the goal of the committee should be to "agree upon the best method to present to the doctors of West Virginia a common sense point of view of the means of psychiatry as it relates to the general practice of medicine, and to demonstrate how an understanding of psychiatry can be of inestimable value to the physician in his daily practice."

Dr. R. H. Felix, chief of the division of mental hygiene, USPHS, has accepted an invitation to appear at the next meeting which will be held at Huntington, Sunday, May 20.

Besides the chairman, the committee is composed of Drs. James L. Wade, of Parkersburg; E. J. Van Liere, of Morgantown; E. F. Reaser, of Huntington; A. A. Wilson, of Charleston; and Capt. John P. Lambert (MC), of Huntington, ex officio.

DISTRICT HEALTH CONFERENCES

District health conferences are being arranged by the West Virginia Public Health Association in lieu of the annual state health conference which was canceled on account of ODT travel restrictions. The northern district meeting will be held at the Stonewall Jackson Hotel in Clarksburg on May 21, and the southern district is scheduled for May 28, at the Frederick Hotel in Huntington. Three topics have been selected for discussion: "Resume of the Health Department's New Legislation," followed by a round-table discussion of the administration of the laws; "The Pure Food and Drug Law"; and "Mental Hygiene." A bill passed recently by the legislature empowers the state health commissioner to establish a bureau of mental health and to conduct mental hygiene clinics over the state.

The executive committee of the public health association has announced that meetings in the northern and southern districts will also be held next fall.

DR. GEO. P. EVANS APPOINTED HEAD NEW ANDREW S. ROWAN MEMORIAL HOME

Dr. George P. Evans, prominent McDowell County physician, of Iaeger, will become the first superintendent of the new Andrew S. Rowan memorial home at Old Sweet Springs. The appointment, announced by Governor Clarence W. Meadows, is effective July 1, the date for the opening of the institution for the care of aged and infirm white men and women.

Old Sweet Springs, popular Monroe County resort built prior to the Civil War, was purchased by the state in 1941 for use as a tuberculosis sanitarium. No appropriation was made for the purpose by the 1943 legislature and the buildings have not been in use for about two years. The property is now being thoroughly renovated and improved to provide adequate facilities for use as a home for aged men and women now being cared for principally in state mental institutions.

The bill (S. B. 9) establishing the home, passed at the recent session of the legislature, also provides that the institution may be used as a rehabilitation center for some of the boys sentenced to the state reformatory at Pruntytown.

Doctor Evans, long active in industrial practice in the coal fields, is a graduate of the College of Physicians and Surgeons, Baltimore, and interned at the old Sheltering Arms Hospital at Hansford. He was formerly a member of the staff at the soldiers homes at Dayton, O., and Marion, Indiana. Doctor Evans is now serving his fourth term as a member of the West Virginia House of Delegates. He was chairman of the committee on medicine and sanitation at the regular session of the legislature which adjourned March 10.

SURVEY OF BIRTH REGISTRATIONS

The Children's Bureau, the Bureau of the Census, and the State Health Department are jointly sponsoring a program to stimulate accurate and complete registration of births in the future. J. K. Knee, special agent of the division of vital statistics, Bureau of Census, is at present conducting a survey, following which an effort will be made to boost West Virginia's registration to at least 90 per cent, the minimum required for a state to remain in the registration area. The registration is now 86.5 per cent, with several counties failing to reach the 70 per cent mark.

WILL INSTALL ADDITIONAL "HOT BOXES"

The use of electrical hot boxes in fever treatment of syphilis has met with such pronounced success that the state health department is preparing to install two additional boxes for use at the Kanawha Valley Medical Center, in South Charleston. This state is one of the first in the country to emphasize fever treatment for neuro-syphilis.

PHC MEETS IN JULY

A meeting of the Public Health Council will be held at the Daniel Boone Hotel, Charleston, July 5-7, 1945, for the purpose of examining applicants for licensure in West Virginia.

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SOME MEDICAL ASPECTS OF THE CHEMICAL INDUSTRY *

By THOMAS W. NALE, M. D., Medical Director, South Charleston Plant Carbide and Carbon Chemicals Corporation, South Charleston, West Va.

A medical program is essentially the same for any chemical industry, but certain specific precautions and treatments may vary with the type of chemicals being manufactured or handled. There is often a great deal of difference between the manufacturing of a chemical and the handling of the same chemical in its utilization. Any difficulty encountered in either processing or handling a chemical which is potentially toxic is dependent upon the contact of the chemical with the skin or the presence of the chemical in too great a concentration in the air breathed by the employee.

The medical program should be designed principally as a preventive program. The medical personnel should be actively engaged in cooperating in preventing industrial accidents and illnesses and in putting forth every effort to minimize absenteeism among employees. They should anticipate and be ready for any emergency treatment that arises.

The mention of a preventive medical program immediately suggests a program of health education not only for the worker himself, but for his entire family. We must not forget that the average worker is on the job only 48 hours out of the 168 hours in each week. These hours away from the job may have a far greater influence on his ability to carry on efficiently at his work than his 48 hours on the job. A preventive program suggests education of the employee relative to the observance of proper safety precautions and the utilization of proper safety equipment, such as goggles, masks, protective clothing, etc.

A preventive medical program suggests not only a safe, clean, well-lighted place to work, free from noxious fumes and dusts, but also for provision for adequate sanitary toilets, washing and bathing facilities. All this cannot be done by the medical department alone, but means close cooperation between and working with safety departments, process safety departments and management in general. It also suggests education of foremen and other administrative personnel regarding any particular hazard that might exist in the plant.

An important phase of this program is the physical examination of employees. The preemployment examination should be made with extra care due to the incidence of applicants with physical defects which accompany a man-power shortage. The preemployment examination represents the first medical precaution in the chemistry industry as far as the individual employee is concerned. The details of the physical examination are being discussed in another paper.

Every new employee should have the benefit of proper safety instructions before he starts to

* Presented before the Kanawha Medical Society, Charleston, West Virginia, November 21, 1944. The author quotes freely from a paper prepared by him and published in the August, 1943, issue of INDUSTRIAL MEDICINE under the title "Medical Precautions and Treatments Associated with the Chemical Industry."

work. These should include instructions as to the utilization of safety equipment and the prompt reporting of all injuries to the medical department. These instructions are usually given by a member of the safety department.

The medical dispensaries should be equipped and ready to look after minor illnesses and injuries that are nonoccupational. This service does much to enable ambulatory cases to remain on the job and to prevent lost time. Individuals who are too ill to work should be sent home and referred to their family physician. All cases requiring treatment away from the plant are thus advised. The plant physician is frequently called upon for advice and consultation relative to nonoccupational illnesses.

OCCUPATIONAL INJURIES AND ILLNESSES

One of the most frequent and troublesome classes of injuries encountered in a chemical plant is eye injuries. Despite every sort of precaution it seems that when dealing with chemicals someone manages by hook or crook to spill a chemical in his eyes. Every means should be employed to supply and encourage all employees to wear proper protective goggles—not just any goggles, but goggles designed for the job the individual is doing. The principal types used in the chemical industry are the vapor proof, chipping, standard protective, and, of course, special welding glasses. At the South Charleston plant employees who need corrective glasses are provided with goggles ground to their special prescription. The company pays for having the eyes refracted for these goggles. A supply of sterilized goggles is maintained at all times in the medical dispensaries and in the safety department. Every endeavor is made to prevent eye burns and other eye injuries, not only through individual eye protection, but in maintaining safe equipment that will not rupture and spray chemicals about. Special eye washing fountains, which are foot operated, are placed at strategic points in the units so that in event a chemical reaches an eye it can be immediately washed out at the unit.

The immediate treatment of chemical burns to the eye is by far the most important, so the dispensary should be prepared to give prompt medical first aid to eyes at all times. There should be maintained in each dispensary a list of chemicals used or handled in the plant. This list should be an alphabetical classification and each chemical designated as to the severity of the eye injury anticipated, and whether or not the chemical is acid, alkaline or neutral. Many of the chemicals in the list maintained in our dispensaries have been actually tested in rabbits' eyes.

When a case of chemical eye burn is brought into the dispensary, the attendant at once ascertains, if at all possible, the chemical involved. The eye is inspected and then anesthetized with ½ per cent pontocaine solution. It is then irrigated with a continuous flow of normal saline solution without any pressure being exerted on the eye. Special equipment consisting of a five gallon bottle mounted on a movable stand and equipped to siphon the solution out is used. The patient is placed in a chair which can be tilted back so that he is in a reclining position. This continuous irrigation is continued for exactly fifteen minutes. The eye is then examined. Two drops of eye stain (2 percent fluorescein solution) is placed in the eye and the excessive stain washed out. If the eye has suffered from a chemical burn, the damaged cells will retain the stain which is a greenish color. Three drops of ½ per cent pontocain solution is dropped in the eye. The washing is then continued for fifteen or more minutes by the clock. The eye is stained again and if it still retains a stain the patient is referred to an eye specialist.

You will note that no attempt whatsoever has been made to neutralize a chemical in the eye. We feel that this should not be attempted. As a general rule, acids cause much less trouble than alkalies. An acid burn is usually instantaneous without continued progression. Alkaline or caustic burns may continue to be active for hours and cause additional damage to the eye. Aldehydes of some types also cause progressive action. In caustics particularly small bits of the chemical become fixed in the corneal cells and continue to burn. These bits have been repeatedly demonstrated by the use of the slit lamp.

It is possible to get rather severe burns to the eyes from fumes alone. In cases of chemical fume irritation, the same technique of emergency treatment should be used as for chemical burns, except that it is not necessary to wash the eyes as long unless there is a demonstrable burn to the corneo. Certain chemicals may cause unusual reactions in the eye. Instead of producing immediate effects, the reaction may be delayed as much as from four to twenty-four hours. Aldehydes and certain metallic compounds are notorious for acting this way. We have seen acetic acid compounds act this way. The

treatment is the same but all such cases should be seen by an eye specialist.

EXPERIENCE WITH CHEMICAL EYE IRRITATIONS AND BURNS

Year	Cases Treated	Referred to Ophthalmologist
1942	663	85
1943	583	69
1944 Jan. to Nov. 1	753	64
Totals	1999	218

Each and everyone of these cases treated was known to have had a chemical exposure which was at least severe enough to bring the employee to the dispensary complaining of his eyes and requiring treatment. Of course the majority of the cases was not what one would consider severe chemical burns. Two hundred eighteen or 10.9 per cent were severe enough to have taken a stain to the cornea after thirty minutes' continuous irrigation. No eyes have been lost and there has not been any case of lost vision noted in our follow-ups of these cases.

From June 1, 1944, chemical eye injuries have been recorded in such a manner as to break them down between those that were caused by fumes alone, those caused by liquid chemicals and those by solid chemicals. Out of 552 cases there were found 50.36 per cent caused by fumes, 30.26 per cent by liquid chemicals and 19.38 per cent by solid chemicals.

Foreign bodies in the eyes are frequently quite troublesome. All such cases should be taken care of in the dispensary. Every means should be exerted to discourage the practice of fellow workmen removing foreign bodies from the eyes. They should be removed with care by the utilization of sterile equipment and good illumination. Only one instrument should be utilized by nurses and attendants in removing foreign bodies from the eyes, and this is a sterile, cotton-tipped applicator moistened in boric acid solution. The foreign body that is impacted so that it cannot be brushed off gently with a cotton-tipped applicator should be removed by a physician or eye specialist.

Hot bits of metal or scale in the eye should be removed in the same manner as ordinary foreign bodies, but all these eyes should be stained to ascertain the extent of damage done by the hot object. If there appears to be a burn to the cornea, the case should be seen by an eye specialist.

Penetrating foreign bodies or puncture wounds to the eye are the most troublesome of eye injuries as far as permanent disability is concerned. No attempt should be made at treatment in the dispensary except to apply a sterile eye pad and dressing and the case should then be immediately referred to an eye specialist.

Skin burns are frequently encountered in a chemical plant due to the fact that there is not only the opportunity for contact with thermal factors, but also chemicals capable of producing burns. Minor thermal burns are, as a rule, not accompanied by shock of any severity. The burned area is thoroughly cleansed and particles of dirt and adherent material removed. Plain white soap and sterile water are satisfactory. The area is then sponged with hydrogen peroxide. We have found sulfadiazine cream or sulfanilamide cream quite satisfactory when used as a local application. In the past several months we have been using pressure dressings on many of these minor burns. Fine mesh vaseline gauze strips are applied over the area and then a thick layer of gauze or a cotton pad is applied. Uniform pressure is maintained by an Ace bandage and the burns is not redressed for five or six days. For burns about the upper thigh we have found that regular stockingette as an outside dressing affords a very comfortable dressing that stays in place.

In extensive thermal burns shock must always be expected and the patient must be treated accordingly. Sterile sheets are maintained wherever a stretcher is stored. First aid trained workmen are instructed merely to wrap the patient in a sterile sheet, place him on a stretcher, cover him with blankets, and proceed at once to the medical dispensary. On arrival at the dispensary, the clothing is removed and the patient is again placed between sterile sheets. Hypodermics of morphine are administered to a sufficient degree to quiet the patient. Human blood plasma should be maintained for administration to cases with severe shock. No attempt is made to treat the burns locally except to spray their surface with powdered sulfanilamide and sulfathiazole. The final cleaning up of the burned surfaces and the treatment are left until the patient is transferred to the hospital where this can be done in an operating room under anesthesia.

In contrast to thermal burns, efficient treatment as far as chemical burns are concerned can be accomplished at the plant. This early treatment often can prevent a severe burn. It is almost criminal to transport a patient some distance to a hospital

without first endeavoring to neutralize these burns. This means large quantities of neutralizing solutions readily available, not only in the dispensaries, but also in the units. Safety showers should be present in every chemical unit. As soon as an individual has a chemical spilled over him he should be rushed at once to a safety shower and thoroughly washed with quantities of running water.

The patient is then removed to the medical dispensary where the clothing is removed and the areas are washed thoroughly with white soap and water. Preliminary cleansing should include scrupulous care in removing any solid particles from the scalp, eyebrows and other hairy areas. In neutralizing acid burns, 5 per cent sodium bicarbonate solution is used, while in alkaline or caustic burns a 1 per cent solution of acetic acid is used. Wet dressings soaked in the proper solution are applied and reapplied continuously for one and one-half to two hours. It is surprising how many of these burns which look severe at first will show marked improvement if the time and effort are taken to neutralize the chemicals.

In certain heavy acid burns neutralization may have to be continued for as long as twenty-four hours. In chemical burns we hesitate to use heavy grease dressings such as vaseline during the first twenty-four hours. This is because in the event neutralization is not complete, the heavy greases hold the chemical in the skin. This is not so likely to occur if a water soluable cream is used. The after-care of chemical burns is essentially the same as for a thermal burn.

There are many chemicals that require specialized treatment because of their insolubility in water. Many of these may be removed from the skin by isopropanol or it may be necessary to maintain wet dressings with alcohol for twenty-four hours. There are also chemicals which cause delayed action burns to the skin. When these occur they are very slow in healing. To go into these unusual treatments is beyond the scope of this paper.

Skin conditions are not infrequently encountered in the chemical industry. Those irritations and skin conditions due to some chemical contact are classified as industrial dermatitis. The average employee about a chemical plant usually blames every type of skin irritation or skin disease which he might have as being due to some chemical with which he is in contact. Many of these skin conditions are nonoccupational.

Much can be accomplished in the prevention of industrial dermatitis. One of the best ways to prevent these conditions is by having the workmen wear proper clothing. They should wear not only clean clothes, but should thoroughly bathe frequently. Workmen often will wear clothes saturated in a host of chemicals for days or weeks and as a result, particularly in warm weather, will have a skin irritation. By proper clothing is meant clothing that affords proper protection. For example, an irritation to the legs often can be corrected by having the employee wear light-weight, full length, cotton drawers. It may be necessary to wear the shirt sleeves down to the wrists or to wear arm protectors and aprons of some impervious material. Protective gloves also may have to be worn.

The market is now flooded with protective creams, some of which seem to have merit. Many exorbitant claims are made for some of these preparations which are supposed to have curative values. I heard the physician who is the greatest authority on industrial dermatitis in this country make the remark that what he considered one of the greatest values derived from protective creams was that the employee had to wash thoroughly with soap and water to remove them. I have seen good results with the utilization of special protective creams where employees work in acid vapors and also in alkaline dusts such as lime.

In industrial dermatitis the areas usually attacked are the hands, wrists, neck, face, and legs above the sock line. In other words, the areas that get the greatest exposure are first attacked. Neglected industrial dermatitis may become generalized over most of the body. The early lesions usually appear first as reddened raised areas and later there is a formation of small water blisters. Some forms may develop into a pustular rash. In the treatment of the condition it is important to find out the causative agent, for when this can be found and the exposure is discontinued the dermatitis will clear up of itself. In treating such conditions in the medical dispensary, the affected part should be thoroughly washed with white soap and water. A simple, warm wet dressing of epsom salt solution is then applied for fifteen or twenty minutes, followed by drying with a heat lamp for ten minutes. Aluminum acetate in wet dressing is quite valuable. A drying agent such as calamine lotion is usually utilized for further

treatment. Advanced cases require more elaborate treatment.

Allergy is quite evident in or about a chemical plant. Allergy has been defined as a condition of unusual or exaggerated specific susceptibility to a substance which is harmless in similar amounts for the majority of the members of the same species. Since an individual may acquire a sensitivity to almost any foreign substance, cases of acquired sensitivity are seen in the chemical industry. The symptoms may consist only of a skin condition, such as hives, or may manifest itself as nasal or pharyngeal congestion or even true asthmatic attacks. Allergic conjunctivitis is seen occasionally. Cases have been seen in which there has been an eye burn produced by a chemical and following this the individual would suffer from a conjunctival congestion following subsequent exposures to the mere vapor of this same chemical. Some of the newer plastics, phenol compounds, malic anhydrides and "Carbic" anhydrides are powerful sensitizers. There is no specific treatment which will prevent these allergic reactions except the removal of the subject from the exposure. The symptoms of the acute attack respond to the usual preparations used for other allergic attacks. This sensitivity to chemicals is why individuals known to be allergic do not do well in a chemical plant or laboratory. Where chemical compounds known to be powerful sensitizers are handled, every possible means should be exercised to prevent and minimize exposure.

A class of dreaded materials handled in chemical plants are chemicals with skin absorption hazards. It should be a hard and fast rule that whenever chemicals, irrespective of their types, are spilled on the clothes and/or shoes, these clothes and shoes should be discarded and the individual should put on clean, uncontaminated clothes and shoes. This service means that a supply of clothes should be maintained which is readily accessible to men working with such compounds. A partial list of such compounds is acrylonitrile, aniline, allyl alcohol, ethylene, chlorhydrin, ethylene-imin, nitrobenzene, organic metallic compounds of lead, arsenic, mercury, etc., oxygenated or organic chlorine compounds, propylene oxide, phenols, toluidine and other aromatic esters. Any case in which a quantity of these materials is spilled on the skin should receive a very thorough shower with the utilization of much soap and water. If the exposure has been one of the more serious offenders, the individual should be hospitalized and carefully watched.

In plants where noxious gases are handled it is necessary to prevent and to treat cases of asphyxiation. In the field of prevention this means the careful maintenance of proper equipment that is free from leaks and the rigid testing of tanks and areas before workmen go in for repairs. Gas masks should always be readily available. These masks should be of the proper type for the exposure anticipated. Fresh air mask equipment is well adapted for certain types of work. A good percentage of the employees should be trained in the proper administration of artificial respiration. There is one large portion of the South Charleston plant where every employee has had instruction, not only in the Schaffer method of artificial respiration, but also in the use of the portable H. and H. Inhalator. Facilities should be available for the administration of not only oxygen but also oxygen and carbon dioxide mixtures.

The dispensaries should be equipped with cylinders of oxygen to which is attached meter mask equipment for regulating dosages of oxygen. A very satisfactory mask is the O. E. M. mask. Portable equipment is essential as well as the stationary equipment.

As an example of the practical use of oxygen as a therapeutic agent in a dispensary, we can use chlorine exposures. An employee is brought in coughing violently from the irritating effects of a chlorine fume exposure. An O. E. M. mask is fastened to his face and a concentration of 95 per cent oxygen is started. This stops his coughing almost at once. The concentration of oxygen is continued for three or four minutes when the percentage is reduced to 80 per cent and if the coughing begins over again, the percentage of oxygen is increased. This is continued with gradual reduction of oxygen until usually in fifteen or twenty minutes the victim is free of his cough. We have used this method of treatment on several cases of chlorine exposure with very gratifying results. This treatment is applicable to exposures of hydrogen sulphide, ammonia and the amines.

In the chemical industry there can occur all sorts of traumatic conditions. The plant medical department should be prepared to look after any type of injury that might occur. This care should include not only general first aid, but medical first aid which goes much farther than first aid by non-

professional persons. These injuries may include everything from simple lacerations to severe compound fractures and burns. In rendering medical first aid it is imperative that the medical department be prepared to treat shock. No seriously injured man should be moved from the dispensary until efforts to treat and combat shock have been instituted. Every seriously injured man deserves enough morphine to render him quiet. The only true contraindication is head injuries. These cases should not have morphine. In severe shock oxygen in high concentrations is very helpful. In the modern conception of shock it is not wise to keep these patients too warm, but efforts should be made to avoid chilling. Dried human blood plasma should be on hand to be given when needed.

Every chemical plant that handles or manufactures materials that are likely to explode and/or cause fires should be prepared for a catastrophe. This requires much planning and organization of personnel in advance so that definite individuals and groups have assignments and know what to do when the time comes. There should be a definite organization for fighting fires with mobile equipment on hand. This means that definite fire drills should be held periodically, as well as the training of rescue squads, first aid teams and the organization of medical and nursing personnel. The plans that have been organized by the Office of Civilian Defense can be coordinated with plans within the plant. The recommendations of this organization frequently can be adopted and modified to meet the demands of a chemical plant should a catastrophe occur.

ORGANIZATION FOR CATASTROPHE AT THE SOUTH CHARLESTON PLANT

The South Charleston plant covers an area of approximately 142 acres. It occupies a strip along the river bank and an island in the river. The island is 1¼ miles long and 900 feet wide at its widest point. There are two bridges between the island and the mainland. The fire station, in which is housed modern fire fighting equipment, is situated approximately in the center of the island. A qualified fireman is on duty at all times and teams of fire fighters are at work at all hours. In the fire station is a control station for a system of signaling and receiving messages. A system of signals is planned whereby the signal bells designate specified areas and the severity of the fire. Fire fighting equipment is also housed in the various units to take care of small local fires.

A crash truck, similar to trucks used at large airports is maintained. This truck carries additional hose to supplement that carried by the regulation fire truck. Special fire fighting and rescue clothing, such as rubber hats, coats, boots, etc., is carried on the truck. Gas masks of all types, including self contained oxygen masks, are stored in the truck. A portable H. and H. Inhalator containing oxygen and carbogen is also on the truck. Special first aid equipment, such as stretchers, blankets, sterile sheets, bandages, dressings, tourniquets, extension splints for upper and lower extremities, is carried. A specially trained rescue squad accompanies this truck. These men have received special training by the United States Bureau of Mines and it is so arranged that a rescue squad is on duty at all hours. A total of 56 men have received this training.

There is a special group assigned to identifying and tagging all victims, as well as checking with the timekeepers to account for workmen. Special record forms and tags are maintained for this purpose. One group is assigned to roping off and guarding areas. Another group has arrangements for supplying fire fighting and rescue squads with coffee and food. The plant protection force is organized to keep traffic lanes open for ambulances and emergency equipment. When individuals are away from the job and need to be called in for such an emergency, special arrangements are made for calling them in. Each man carries a special pass which admits him into the plant during the emergency.

The medical dispensary should be organized for such an emergency. Plans are made in regard to facilities offered by the various hospitals to look after casualties. One of our hospitals maintains a large blood bank. There is also a blood plasma bank sponsored and maintained by the Office of Civilian Defense. We support and aid these banks. There are over 4,000 of our employees who have been blood typed, and each of these men carries a type card with him. A classified file as to blood types is maintained in the mainland dispensary. This provides us with a large amount of blood of known types ready for utilization. In a catastrophe in which ten men were seriously injured or burned, some 89 units of blood plasma and blood were used. Carbide employees had replaced all that blood in the blood

bank within a little over two weeks after the accident.

Provision is made to call in all the personnel of the medical department and this can be done in a short while. Two dispensaries are open with an attendant in charge twenty-four hours a day, seven days a week. One of these is situated at the upper end of the island and the other at the lower end of the mainland area. A dispensary is located in the laboratory area but is kept open only during the day. There is a fully equipped dispensary at the upper end of the mainland area.

A casualty trunk is held in readiness. This trunk contains all the equipment recommended by the Office of Civilian Defense for a mobile casualty station, except for certain modifications necessary for a chemical plant. If an explosion or fire occurs in an area not adjacent to one of our dispensaries, this trunk is taken to the site of the disaster and an emergency casualty station is set up.

Outside the plant the Office of Civilian Defense takes over. Certain routes to the hospital are kept open by state police, local officers and civilian members of the OCD. This all required special advance planning by the preparation of maps and details. We have found that by our cooperating in black-out drills we have profited a great deal. Members of the medical staff, personnel department, plant protection, safety department, process safety department, and fire fighters have been called out in these drills.

The planning for all these measures has been done by various groups in the plant and has been coordinated. We have these plans but always hope we will not have to use them.

SHOULD DELAY RETIREMENT

The man who is getting older should have some exercise, but it should not be the exercise that he has undergone or indulged in when he was younger. Prolonged auto trips, hard shooting expeditions and long golf games should be abolished and there should be substituted shorter trips, fishing or a few holes of golf. Retirement from active business is bad, unless a man has an avocation which can supplant his vocation. All doctors are familiar with the man who stops work and then disintegrates and degenerates with a rapidity which is almost unbelievable. The older person should be advised to reduce his total food intake; not to worry about the quality of the food as much as the quantity.—Edwin S. Byrd, M. D., in *J. Med. Assn. Georgia.*

FOREIGN BODIES IN THE EYE *

By RALPH S. McLAUGHLIN, M. D.,
Charleston,, West Virginia

The most common accident to the eye seen in the practice of medicine is foreign bodies of one kind or another, whether lodged under the lids, imbedded on the eyeball, or lodged within the eyeball A common fault in the profession is to treat these foreign bodies lightly and thereby render a service which is not only inefficient but oftentimes actually damaging to the welfare of the individual.

ANATOMY

To treat properly even the most simple free-floating foreign body an understanding of the anatomy of the parts affected is necessary. Let us enter here a brief resume of this anatomy. The eyelashes are protective in their function but by this action retain particles of dust, cinders, etc., which may later fall into the eye. The margins of the lids are so shaped that the edges lying next to the ball are sharply angled and closely applied to the ball, primarily to keep an even coat of tears smoothed over the cornea in an action much like the windshield wiper of an automobile but this same action is frequently the factor that drives a foreign body deeper into the cornea. It is well to know that a very large proportion of foreign bodies are lodged under the upper lid on the posterior surface of the tarsus and that 2 or 3 mm. above the margin of the lid is a sulcus which encourages such lodgment. The bulbar conjunctiva is a loosely constructed membrane which is loosely applied to the sclera and is a good recipient of foriegn bodies.

The cornea is probably the most important structure because injury to this part may lead to many complications, the most important of which is loss of vision due to scar tissue. The cornea is made up of five layers of tissue and I take them up from the external surface passing inwards. The first layer is epithelium which is a modified conjunctiva and consists of four layers of more or less cuboidal cells so arranged that perfect transmission of light is possible. This is the only structure in the cornea that is regenerated in kind, and not by scar tissue.

The next layer underlying the epithelium is Bowman's membrane, a very thin layer with no cell structure and of disputed function. It is thought

* Presented before the Kanawha Medical Society, Charleston, West Virginia, November 14, 1944.

by some that it is a transition membrane and there is evidence that it might be a basement membrane having to do with the regeneration of epithelial cells. Much investigation has been done along this line but to date no definite conclusions have been reached. It is well accepted, however, that injury to Bowman's membrane routinely results in formation of scar tissue. It is to be remembered that the safety depth of the epithelium is about equal to only four or five red blood corpuscles piled one on top of another. I emphasize this point because care can save an eye while thoughtlessness can destroy vision.

Underlying Bowman's membrane and closely related to it by fibrous projections is the corneal stroma which structure forms the bulk of the thickness of the cornea. It is an evenly patterned structure, again so arranged that light is transmitted perfectly. Limiting the corneal stroma behind is Descemet's membrane similar in thickness to Bowman's but differing in that it is elastic. This elastic characteristic is of importance in perforating foreign bodies. Lastly there is the endothelium, a layer of single cuboidal cells having, evidently, the sole function of protecting the cornea from the aqueous. The presence of blood vessels in the cornea is always a pathological indication.

The foregoing is a very sketchy outline of anatomy but brings out the points of major importance. More detailed study of this factor will assure all of us of easier and better work.

FREE-FLOATING FOREIGN BODIES

The free-floating foreign body is extremely common. The history is familiar,—something blew into the eye. Usually the patient is not particularly uncomfortable but does have sufficient distress to present himself for treatment. I do not like to use an anesthetic for this type of case as a routine procedure. With a good focusing light the eye is inspected, first the lower cul-de-sac, then the exposed conjunctiva and cornea and then under surface of the upper lid.

The examination of the upper lid is done by everting the lid and the first location to be observed is the sulcus and the area of the posterior surface of the tarsus just above the sulcus. Surprisingly, a great majority of the foreign bodies are found in this location. They should be removed either by washing or by a small swab which is used after being dipped in saline or boric acid solution.Certainly it should be done with sterile technique. Here the advantage of no anesthesia is gained.

If the operation is complete, the patient will have immediate relief and can be dismissed. If, however, there is still pain further search for more foreign bodies must be made and if none are found the cornea should be stained with fluorescin and inspected for abrasion which may well result from the dragging of the foreign body over the cornea or from trauma caused by the patient trying to remove the particle himself. If such abrasion is found the eye should be irrigated with an antiseptic solution and an antiseptic ointment such as sulfathiazole applied. A patch to immobilize the lids should be used in all cases of abrasion. The eye, if not infected, will be healed in from six to twenty-four hours.

IMBEDDED FOREIGN BODIES

Next in order of frequency is the imbedded foreign body and while the particle may be imbedded in any part of the exposed eye or lids I shall deal with the cornea only, as that is the part that requires special attention. The history usually is that something got in the eye and very frequently the patient cannot designate just when the accident happened. The eye becomes painful and this pain is actual as contrasted with the simple distress of the free foreign body. The eye is usually red and injected and tearing is evident.

Examination of the eye is difficult due to the spasm of the lids and the nervousness of the patient. In these instances anesthesia is necessary. The selection of the anesthetic warrants care. Pontocaine is the anesthetic of choice due to the fact that its action is rapid, deep and that it hardens the epithelium. The hardened epithelium is of advantage since it permits manipulation without unneeded disturbance of the normal cells. Examination is done with a bright focusing light and some form of magnification such as a Beebe loupe or ordinary magnifying glass. In applying the light to the eye it is well to throw the focused beam on the eye so that an obtuse angle is formed with the examiner's eye, the apex of the angle being at the location of the suspected foreign body. This is a great aid since the undamaged cornea presents a perfect reflection while the foreign body or damaged cornea will diffuse the light rays.

In passing, let me mention that the biomicroscope is of great value but its use will not be discussed

since it is not an instrument of the general practitioner man. In the examination, consideration must be made as to the depth of the particle, whether it has been present long enough to cause necrosis of the surrounding epithelial cells and whether it has gone deep enough to penetrate Bowman's membrane. From these points prognosis can be given the patient and also in the mind of the general man decision can be made as to whether he will handle the case himself or put a patch over the eye and refer it to the ophthalmologist.

Among instruments other than proper light and means of magnification is the foreign body spud of which there are many varieties. I believe the most usable is the so-called golf stick spud which is at the same time sharp and dull. A new instrument or a recently sharpened one should be dragged across the thumbnail several times to take off the biting edge yet leave it moderately sharp. With the eye under complete pontocaine anesthesia the spud is applied to the epithelium adjacent to the foreign body and with slight pressure and a scooping motion the particle is lifted out of the bed. A careful inspection should be made to rule out small retained particles or a so-called rust ring either of which is sufficient to cause complications. With the same spud the bed is curetted free of the rust or particles and in this procedure it may be helpful to change anesthesia. Four per cent solution of cocaine softens the cornea so that curettement is made easy but great care must be exercised since other cells of the epithelium may be injured, thus prolonging the injury.

The after-care of an eye after removal of an imbedded foreign body is as important as the care in removal and is probably the most abused of after-treatments. The eye is flushed with an antiseptic solution, further inspection made for possible multiple free or imbedded foreign bodies and the eye closed with antiseptic ointment and an immobilizing patch. If the removal has been clean and there is not much reaction the patient may remove the patch in twenty-four hours and if comfortable may discontinue treatment. If not comfortable he should be seen by the doctor the next day. Some cases will need to be seen again and some of them again and again.

You will note that the use of atropine is not included in the routine and I want to emphasize that its use is not necessary in the majority of cases. In fact it may be a definite injury to the patient. The rule of atropine may well be stated—that it should not be used unless the danger of damage from the infection is greater than the damage that might be done by glaucoma. It is not at all uncommon to patients that have had atropine used for removal of simple foreign bodies that are unable to carry on their work for a week or more due to the lack of accommodation caused by the drug. In my practice it is never used the first day except on the most definite indications and by this custom it is used only in a very small percentage of all cases seen. I do, however, use a 5 per cent solution of homatropine in cases where there seems to be an undue amount of pain or iris spasm.

In complicated cases where the eye does not heal promptly, iridocyclitis is the common result. These cases are atropinized, given salicylates in maximum doses and foreign protein intramuscularly in the form of milk. An occasional case is hospitalized and given actual fever therapy. The sulfonamides are not included in this program due to the fact that the above form of treatment is satisfactory in most of the cases and the sulfonamides are reserved for diseases of greater severity. I have seen no reports on the use of penicillin for this condition but such reports would be of great interest.

There is some distinction to be made in the type of foreign material which is imbedded in the eye. Classification between the following is of practical value: Minerals are most common and less dangerous unless the mineral is copper or brass. Copper and brass must be completely removed since, if left in the eye, destructive inflammation will almost surely result. Possibly the most dangerous foreign body in the eye is the particle of vegetable or animal material such as wood, weeds and particles of bug wings, hairs, etc. All of the above must be completely removed and I have found that the sulfonamides applied topically following injuries of this type are almost specific. Glass is to be removed if such removal can be done without producing further destruction of vision. The eye tolerates glass very well.

PERFORATING FOREIGN BODIES

The perforating foreign body is of utmost importance and is the one that can be missed most readily. The history is of considerable significance. We can expect the patient to tell us that he has been striking metal upon metal such as a hammer and cold chisel or a sledge on rails. He will tell you

that he felt something strike the eye and that it gave him quite a jolt, a much different reaction than that received by a particle getting into the eye superficially.

Examination very frequently reveals only a trivial injury or there may be no apparent injury at all. If one is found it may be only a small puncture and frequently there are no other findings. Careful clinical study will not properly diagnose such a case. X-ray is the only sure way and it must be used freely. The technique commonly used is antero-posterior and lateral plates for presence or absence of an intra-ocular foreign body. This is to be followed by the localization procedure if the X-rays are positive. I think that often we hesitate to use this more or less expensive procedure but the Compensation Commission has expressed a very liberal view on this matter and it is under their jurisdiction that most of such cases fall. The point that I wish to emphasize is that history of an accident as outlined above is grounds for suspicion and X-ray diagnosis. The actual removal of the object is a specialized procedure best occomplished with the magnet, either small or giant. In passing it might well be said that all foreign bodies should be removed by the small hand magnet if possible, the giant magnet being reserved for use after attempts with the small magnet have failed.

Early diagnosis and treatment is the secret of success in these cases and even in the best handled cases the prognosis must be guarded. There is a complication of intra-ocular foreign bodies with which you should be familiar, since it often follows some weeks or months after the original injury. The condition is sympathetic ophthalmia. The symtoms are an irritable, red eye that pains and waters. In the presence of such symptoms with the history of an old perforating injury immediate reference to the ophthalmologist is essential. Here again early treatmet is necessary to save the uninjured eye. The treatment is immediate removal of the exciting eye if diagnosis is made early enough. At times, if the condition has existed for some time and the sympathizing eye is already showing impaired vision, then expectant treatment is desirable, for cases are reported where the end result has been better in the exciting eye than in the sympathizing eye.

In closing, I want to mention the importance of focal infection as it affects the recovery of foreign body injuries to the eye. In all cases which do not heal promptly a careful review of the areas subject to focal infection should be made. It is well to remember that in adults teeth are the most common offenders and in children the upper respiratory tract is the usual location. Many cases can be successfully and promptly terminated by the removal of such focal infections.

THE GREATEST PROBLEM

When we think of malaria, we are prone to think of it as it occurs at the present time in our southern states. There it is a relatively mild disease as compared with malaria in other sections of the world, and it is readily controlled by the administration of the antimalarial drugs in small doses. Years ago it was widespread throughout all of the United States. Gradually the area in which it occurs has been reduced, but it is still sufficiently widespread to be an important public health problem. If we realize that a million cases occur annually in this country, we can understand that it is still a large problem.

If we realize that in other sections of the world the disease prevails to a far greater extent and is more frequently fatal, we become aware of what has been said so often, that malaria is still the "king of disease." Do you realize that malaria, the disease itself and not its complications ,causes more deaths a year throughout the world than all other diseases put together? In India alone, not including the native states, there are a million deaths a year from Malaria. Records of the Malaria Institute of India prove that statement. With malaria as with the other diseases so far considered we have a dual problem, namely the recognition of the disease in the individual and its prompt treatment, and the possibility that returning infected individuals may be foci for the further spread of the disease.—Col. C. J. Gentzkow, M. C., in *The Pennsylvania Medical Journal.*

COLDS REACH PEAK IN DECEMBER

Dr. J. H. Kler has scientifically confirmed that drafts do have something to do with catching colds. He also found that sex, age and working posture have a bearing on the number and severity of colds. The majority of colds in women occur during the menstrual period, and the largest number occur in the 20-29 age group. There are more colds among office than factory employees, and the smallest number is among those who walk about on their jobs. December is the month of highest incidence.—*R. N.*

THE RH FACTOR: A REVIEW OF ITS CLINICAL SIGNIFICANCE *

By CURTIS P. ARTZ, M. D., Grantsville, West Va.

During the past four years many excellent articles have appeared in medical literature about the Rh factor. Since the discovery of this factor in 1940 by Landstiener and Wiener [1] the practical applications of this knowledge have proved to be of considerable clinical significance. An explanation now has been found for many of the hitherto unexplained, homologous group, transfusion reactions and an adequate basis for the understanding of the etiology of erythroblastosis fetalis has been advanced.

To comprehend the relation of the Rh factor to the other blood factors it is necessary to discuss the properties of human blood cells and serum. The four great blood groups, desiginated by international terminology as O, A, B and AB are familiar. These letters denote the specific antigenic substance in the erythrocyte. The serum of type O contains antibodies against type A and type B. The serum of type A carries antibodies against B; the B group contains antibodies against A, and type AB carries no antibodies. These antibodies are naturally-occurring and are not produced by immunization. The other antigenic substances occurring in the human red cell are entirely independent of the aforementioned groups and are designated M, N, and MN. With the exception of an occasional case no antibodies have been found in human serum for the M, N and MN blood substances. Therefore, these antigens can be safely ignored in trnasfusion practice. The third atigenic substance in the human erythrocyte is known as the Rh factor or Rh antigen. Anti-Rh bodies do not normally appear in human serum, but in contrast to the other two antigenic factors the Rh substance may stimulate the formation of specific immune bodies. This process has been referred to as isoimmunization.

EXPLANATION OF THE RH FACTOR

Landstiener and Wiener observed that in spite of careful cross matching, severe transfusion reactions occurred even within the same blood groups. They reported the existence of this new antigenic Rh substance as an explanation. The name designating this factor is taken from the first letters of the word Rhesus, because these workers discovered an antibody which could be produced in rabbit or guinea pig serum by repeated injections of the erythrocyte of the Rhesus monkey.

They then discovered that these antibodies agglutinated erythrocytes in 85 per cent of all humans, irrespective of their blood group. Therefore it was possible to divide human blood into two new classifications: Rh postive, blood agglutinated by the new immune serum and Rh negative, the remaining 15 per cent in which no agglutination occurred. The physical properties of this Rh substance have not been definitely determined, but it is presumed to be a carbohydrate attached to the protein of the red blood cell. Specific anti-Rh immune bodies do not occur normally in human serum. However, Rh negative blood will produce anti-Rh bodies when stimulated by the Rh antigen of the Rh positive red cells. This means that no hemolytic reaction will occur during the first transfusion of an Rh negative recipient. However, the second transfusion of an Rh negative person with Rh positive blood will cause a reaction. The anti-Rh bodies formed by the isoimmunization process occurring after the first transfusion will react with Rh positive erythrocytes. The heredity of the Rh factor was investigated by Landstiener and Wiener [2] in 1941. It is transmitted as a simple Mendelian dominant.

TECHNIQUE OF RH DETERMINATION

It has been proven that the usual method of homologous group cross matching will not demonstrate agglutination caused by the Rh antigen antibody reaction. For this reason every case of multiple transfusion or transfusion during pregnancy should be tested for the presence of the Rh factor. Levine[3] has recommended the following technique in determining the Rh specificity of the red cell:

1. Small clean test tubes 75x12 mm. are used.
2. A 2% cell suspension is prepared by adding one drop of finger blood to 4 cc. of saline.
3. One or more drops of anti-Rh serum are placed in the tube with two drops of cell suspension. **
4. Controls with known Rh positive and Rh negative cells should be set up simultaneously. The tubes are shaken and placed in a water bath at 37 C. for an hour. The

* Presented before the Academy of Medicine of Parkersburg, at Parkersburg, January 4, 1945.

** Commercial serum may be obtained from the Blood Transfusion Association, 39 E. 78th Street, New York, N. Y.

mixture may be agitated several times during this period.

5. The tubes are removed from the water bath and are examined for the appearance of sediment in the mixtures. A round firm sediment indicates the absence of agglutination while an irregular loose sediment indicates gross agglutination.

6. The tubes are centrifuged for one minute at 400 R. P. M.

7. The mixtures are again inspected and the quality of the sediment is noted. A small hand lens may facilitate the reading. Those showing agglutination are Rh positive.

8. Where gross clumping is not evident the specimen should be examined miscroscopically under low power. Bloods showing no agglutination are Rh negative.

TRANSFUSION REACTIONS

One of the most important practical applications of the knowledge of this factor is concerned with transfusion accidents. Rh positive individuals do not produce anti-Rh bodies. Therefore, if the prospective recipient is Rh positive the problem of reaction due to Rh antigen-antibody combination may be disregarded. Should the recipient be Rh negative, however, a hemolytic reaction may occur during a transfusion, if the Rh negative blood has been previously stimulated to produce anti-Rh immune bodies. Two methods of stimulation may occur:

1. An Rh negative patient may receive Rh positive cells with little or no reaction, but during the next five days this recipient will form anti-Rh bodies.

2. An Rh negative pregnant woman may be stimulated to form anti-Rh immune bodies by the interchange of blood through the placenta from an Rh positive fetus.

Only when these antibodies are present in Rh negative serum can a reaction be expected from transfusion with Rh positive blood. In no other combination can a transfusion reaction be attributed to the Rh factor. Rh negative blood containing anti-Rh immune bodies may receive a donation from an Rh negative individual or an Rh positive recipient may be transfused with Rh positive cells without any untoward effects.

As previously mentioned it requires about five days for anti-Rh bodies to appear in the blood stream following stimulation by Rh positive cells. After the appearance of these immune bodies a reaction will readily occur following an Rh positive transfusion It is believed by Seldon, Lundy, and Adams [4] that during this reaction all these anti-Rh bodies unite with the newly induced Rh positive antigen to produce an absence of the immune bodies. Ordinarily these immune bodies reappear within three to five days. Clinically, this means that if it is imperative to perform repeated transfusions of Rh negative recipients with Rh positive blood there exists a period of two days following a reaction that may be considered safe.

Exactly how long anti-Rh bodies remain has not been definitely determined. Weiss [5] has reported a case in which a reaction due to the Rh antigen occurred twenty-four years following the production of anti-Rh immune bodies in a pregnant woman. He believes that these immune bodies are stored in the reticuloendothelial system and terms the above method of production of a recation as "Recall" phenomenon. Levine also recognizes that Rh antibodies which have been fixed to the tissues may be released, even after an interval of many years, to cause an untoward reaction when the Rh antigen is reintroduced.

ERYTHROBLASTOSIS FETALIS

In addition to the explanation of multiple homologous group reactions the newly acquired knowledge of the Rh factor has clarified the etiology and pathogenesis of erythroblastosis fetalis. Three clinical forms of this disease have been generally recognized:

1. Hydrops fetalis, the most serious type, is characterized by general edema and usually terminates in the delivery of a large macerated fetus, before or at term.

2. Icterus gravis is a less severe form in which marked jaundice and anemia, not present at birth, develop on the second or third post-natal day.

3. Hemolytic anemia, the mildest type, is characterized by a faint jaundice, anemia, enlargement of the spleen and the presence of many nucleated red cells in the peripheral blood.

The etiology of all three forms has been shown by Levine [3] and other workers to be due to an isoimmunization process. The mother must be Rh negative, the father Rh positive and the fetus Rh positive. The Rh factor of the fetus passes

through the placenta into the maternal circulation stimulating the formation of Rh antibodies. These immune bodies formed in the maternal circulation in turn filter back into the fetus. Then the fetal circulation contains Rh positive cells and anti-Rh bodies. Agglutination and destruction of the fetal Rh positive cells occur with the resulting jaundice and anemia of erythroblastosis fetalis. The exact duration of this process has not been definitely established. It is known, however, that fetal death in utero may occur causing early abortion at the second to fourth month.

By this process, then, it is possible to explain many of the repeated miscarriages and premature deliveries of macerated fetuses which have been previously attributed to syphilis. The incidence of erythroblastosis based on pathological diagnosis is about one in two hundred full term deliveries. Based on Rh matings it should be considerably higher. However, the father in more than half the case is heterozygous and will produce an Rh positive fetus in only 50 per cent of the offspring. Then, too, in numerous cases the capability of the Rh negative mother to produce antibodies may not be well established. Frequently the first Rh positive child of an Rh negative mother will be normal, but a low titer of antibodies may be produced which in turn will cause erythroblastosis in succeeding pregnancies.

CLINICAL APPLICATIONS

The above concept of the role of the Rh antigen in the production of erythroblastosis brings forth a few facts of practical clinical significance:

1. Rh specificity determinations should precede the transfusion of mothers following repeated miscarriages or following the delivery of an erythroblastotic infant. In this group of recipients Rh antibodies may be present which would cause a severe transfusion reaction following the use of Rh positive blood. On this basis a new axiom has been founded that the mother of a recently delivered erythroblastotic fetus should never be transfused with the father's blood. Rh typing of these mothers and their donors should be always performed to insure the donation of compatible Rh negative cells.

2. Rh negative blood should be used for transfusion of infants with a diagnosis of erythroblastosis fetalis. Although the infant is Rh positive a transfusion of Rh negative blood should be used. The circulating blood of the newborn contains anti-Rh immune bodies absorbed from the maternal circulation which will react with newly induced Rh positive cells. Neither the mother nor the father should be used as a donor. The mother's blood, although Rh negative, contains additional anti-Rh immune bodies while the father's blood carries the incompatible Rh antigen. These infants should be treated with small repeated transfusions of nonparental Rh negative blood.

COMMENT

From the foregoing explanation it may be concluded that the Rh factor plays an important roll in modern clinical medicine. The diagnostic armamentarium of every physician should include available laboratory facilities for the determination of Rh specificity.

Although typing serum is difficult to produce, even the smallest laboratory may secure a commercial preparation. Diamond [6] has suggested that physicians send 5 cc. of blood from the mother of an infant with erythroblastosis to the Blood Grouping Laboratory, 300 Longwood Avenue, Boston, Mass. If the serum of this sample contains anti-Rh immune bodies of sufficiently high titer, the Boston Laboratory will request 100 to 500 cc. of this patient's blood. From this specimen Rh typing serum is prepared and pooled. The contributing physician will then have credit with the Boston institution and may draw standard Rh typing serum for use in his local hospital laboratory.

SUMMARY

A review of the recent literature concerning the Rh factor and its clinical applications in medicine has been conducted. No claims for originality have been made. A concise treatise on the history of the Rh factor and its relation to other blood factors has been presented.

The role of this factor in multiple transfusion reactions and in the etiology of erythroblastosis fetalis has been discussed. It is evident that the determination of the Rh specificity of the blood will prevent many homologous group transfusion accidents. Erythroblastosis fetalis may be adequately treated by the administration of nonparental Rh negative blood.

All hospital laboratories should be familiar with the technique of determining the Rh reaction of the blood.

Many transfusion reactions can be prevented and many lives can be saved if every physician, whether he be obstetrician or pediatrician, surgeon, or gen-

eral practitioner will familiarize himself with the prseent knowledge of the Rh factor and will interest his local laboratory in the Rh typing of blood when indicated.

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CHILD MUST HAVE VEGETABLES

Much too much of the energy units consumed by children is over refined carbohydrates: Sugar, white flour, candy, and sugar water carbonated beverages. These foods contain no vitamins and few minerals but they greatly increase the need for vitamins. Children are constantly urged to eat vegetables. Whether they have been depleted of their important vitamins makes no difference. Of course properly served vegetables are important but by themselves they offer an inadequate supply of protein for the child's body and must be supplemented, if not by meat, certainly by milk, cheese and eggs. Candy, "pop" and the various herb carbonated drinks are a major preference in the diet of too many children. They contain no vitamins or minerals and yet, as has been said, they increase the need for the food accessories. Furthermore, they spoil the child's appetite for the plainer foods that do contain their own vitamins and minerals.—J. F. in *Ohio State Medical Journal.*

AN INTERESTING UROLOGICAL PROBLEM*

(CASE REPORT)

By RALPH U. WHIPPLE, M. D.,
Elkins, West Virginia.

Due to the initial difficulty in diagnosing this case of extensive renal damage requiring equally extensive surgery, I feel that a review of its salient features is justifiable.

A 36 year old housewife was admitted to the Medical Service of the Davis Memorial Hospital on March 14, 1944, complaining of a chronic nonproductive cough, frequent night sweats, occasional chills, easy fatigability, and loss of appetite and weight for the past several weeks. She was immediately placed on a tuberculosis precaution regime while undergoing an extensive medical investigation. The medical investigation, which included an X-ray of the chest and gall-bladder, gastro-intestinal series and barium enema, was essentially negative. The only clinical finding was a moderate pyuria.

A urological history revealed the fact that she had had, for several years, intermittent attacks of bilateral flank pains associated with fever, chills, nausea and vomiting as well as concomitant frequency and burning on micturition. As near as she could recall these attacks started at least ten years previously. A few months prior to this admission, her local physician had discovered that she had a positive blood Wassermann although no history of a primary or secondary lesion could be elicited. Six years previously she had had a suprapubic exploration at which time she states her appendix and "a tumor of the ovary" were removed. Her menstrual history was average and she had had no other operations or serious illnesses.

Physical examination revealed an asthenic, pale, chronically ill woman suffering from frequent episodes of violent coughing. The temperature was 101.0 F.; pulse 100; respirations 20. The pupils were equal and reacted to light and accommodation. The teeth were in a fair state of repair and the tonsils small. The heart was average in size, contour and position; sounds were of fair quality; regular sinus rhythm; and no mumurs. The blood pressure was 110 systolic and 78 diastolic. The lung fields were clear to percussion and auscultation except for numerous expiratory rhonchi. Examination

* From the Department of Urology of the Golden Clinic, Elkins, West Virginia.

of the abdomen revealed a firm suprapubic scar and minimal tenderness deep in the left flank and in both lower quadrants. The right kidney was palpable and freely movable; no abdominal spasm or rigidity was present. Pelvic inspection revealed a marital introitus; there was a scarred cervix and an antiflexed uterus which seemed fixed and slightly larger than average; no abnexal masses. The deep reflexes were physiological; the Romberg test was negative.

Laboratory: The urine was cloudy, yellow, Ph 6.0, specific gravity consistently below 1.012, sugar free, albumen (one plus); microscopic examination showed an intermittent heavy shower of pus cells. Hemoglobin 85 per cent, erythrocytes 4,300,000; leucocytes 19,000 with 84 per cent polymorphonuclear cells and 16 per cent lymphocytes. The blood urea nitrogen was 21 mg. per 100 cc. and the Wasserman positive.

A No. 24 French, Brown-Buerger, cystoscope was passed with eas erevealing a low grade cystitis. The right ureteral orifice was natural; the left was raised on an edematous mound. Indigo carmine given intravenously was not excreted from either orifice up to twelve minutes. Thereupon, ureteral catheterization was attempted. A No. 5 catheter passed to the right pelvis securing a hydronephrotic drip which eventually concentrated the indigo carmine to three plus. Only with the support of a stylette could a No. 4 catheter be introduced and passed to the left pelvis at which point 20 cc. of heavy pus, without a trace of dye, was aspirated. A scout x-ray showed good alignment of the left ureteral catheter; the right was sharply angulated at the level of the fourth lumbar vertebra. No calculi were apparent. The right renal shadow appeared average in size and position; the left was smaller than average. Five cc. of skiodan was injected in each catheter revealing an atrophic left kidney with a large pelvis and several small, blunted calyces (Figure 1). Only two dilated calyces were visualized on the opposite side. Because of the advanced pathology no further study was attempted at this time. The right catheter was removed and the left fastened in situ for continuous drainage.

The patient was returned to her bed; fluids encouraged and a constant Trendelenburg position was maintained to keep the right kidney high and to aid in preventing the left catheter from moving down. Although very little drained by way of the catheter the previous septic course with daily temperature spikes to 101 F., completely subsided thus supporting the belief that the left kidney was draining into the bladder about the catheter. On the fifth day the catheter came out. As no septic episode intervened the patient was returned to the cystoscopic room two days later for a more complete study of the right side.

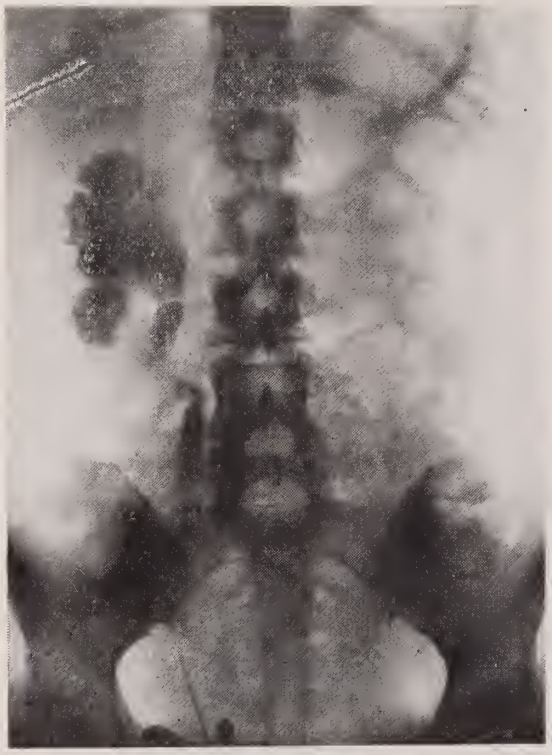
(Figure 1.) Shows the atrophic left kidney with its dilated pelvis and small blunted calyces. A small amount of dye can be seen in the right kidney suggesting an advanced hydronephrosis.

The character of the cystitis was unchanged. An occasional trickle of pus was seen as it extruded from the left orifice. A No. 5 catheter was passed to the right pelvis and 75 cc. of clear urine recovered. Retrograde study with the patient in the Trendelenburg position showed a second to third degree hydronephrosis with a wide S-shaped curve in the upper third of the ureter. With the patient in the upright position the kidney dropped the distance of two lumbar vertebra and at the same

time markedly accentuated the ureteral kink (Figure 2).

The main problem facing the surgeon in this case was which side to tackle first. Were there no concern about the left kidney producing an acute postoperative septic flare-up, it would have seemed preferable to correct the right or so-called "better side" first. However, as one could not be sure of avoiding this complication a left nephrectomy was advised as the initial step. The preoperative work-up left little doubt that this kidney was a non-functioning, atrophic, pyonephrotic sac.

Premedication consisted of morphine, grains 1/6 and atropine grains 1/200 one hour preoperatively. Under ether anesthesia the patient was placed on her right side and the left retroperitoneal space entered through a vertical, muscle-splitting incision of Simon parallel and just anterior to the lateral border of the quadratus lumborum. The peritoneum was brushed anteriorly and the small, fibrotic kidney mobilized with considerable difficulty due to the dense perirenal adhesions. Sharp dissection had to be resorted to in several areas. The upper portion of the ureter was mobilized, sectioned low and ligated. The proximal ureter and kidney were lifted into the wound sufficiently to place a tie of No. 2 chromic catgut about the pedicle. The latter was resected and the kidney removed. A suture ligature was placed on the pedicle distal to the initial tie. The abdominal wall was closed in layers about a soft red rubber tube drain. Absorbable suture material was used throughout except for interrupted black silk on the skin. The patient was returned to her bed in good condition and placed in the Trendelenburg position to keep the right kidney high and draining.



(Figure 2.) With the patient in the upright position the ureteral kinks are accentuated. The effects of the back-pressure on the kidney are reflected in the dilated pelvis and the enlarged and blunted calyces.

The postoperative course was relatively benign. Oral intake was supplemented by 1,000 cc. of 5 per cent glucose in saline intravenously on the operative day. The remaining kidney was functioning well. By the sixth day the temperature returned to normal. Very little drainage was present on the dressing and the following day the drain and skin sutures were removed. The patient became ambulatory on the twelfth postoperative day and was discharged on the fourteenth postoperative day at which time the wound was healed and the voided specimen showed a few pus cells per high power field.

Pathological Report (Dr. Fritz Levy): "The gross specimen consists of a fibrotic sac measuring 6.0x4.5x3.5 cm. labelled kidney. On section the parenchyma is seen to be markedly thinned and scarred with no recognizable demarcation of cortex and medulla. The true capsule is not identifiable. On section study the first impression is that of almost complete destruction of normal tissue by numerous areas of inflammatory infiltration and fibroblastic replacement. In the few remaining glomeruli various stages of degeneration are noted ranging from hyaline degeneration to complete necrosis. Likewise, the tubules show a similar range of degeneration from cloudy swelling to complete fibroblastic replacement. There are no areas suggestive of malignancy or tuberculosis. Pathological Diagnosis: Chronic purulent pyelonephritis with secondary atrophy."

Although this patient's appetite improved immensely she failed to gain weight. The wound remained firm and the urine though negative never concentrated above 1.010. The blood urea nitrogen varied between 12 and 16 mg. per 100 cc. The lower quadrant pains persisted but responded favorably to tincture of belladonna and phenobarbital. Three months postoperatively she was re-

admitted for a check-up study of her right kidney. In the interim she had been rather desultory about her antiluetic treatment. The hemoglobin was 96 per cent; erythrocytes 4,800,000; leucocytes 15,000 with 72 per cent polymorphonuclear cells and 28 per cent lymphocytes.

A No. 24 French McCarthy panendscope was passed revealing the trigone, ureteral orifices and bladder mucosa to be grossly normal. A No. 7 ureteral catheter was passed to the right pelvis securing a hydronephrotic drip, and a total of 90 cc. of clear urine was aspirated, a 15 cc. increase over the previous examination. The specimen showed 8 to 10 pus cells per high power field. A scout plate showed the same as previously with the exception that the left renal shadow was missing. A study of the right upper tract was also essentially the same. Because of this patient's failure to gain weight and the gradual increasing amount of residual urine within the renal pelvis, a nephropexy was recommended to facilitate drainage.

The previous premedication was repeated. Under gas-oxygen-ether anesthesia the patient was placed on her left side and the right kidney approached through the classical twelfth subcostal muscle sectioning, retroperitoneal incision with care to avoid the twelfth nerve and blood vessels. Gerota's capsule was opened as far laterally as possible. All adipose tissue was carefully stripped from the true capsule as well as the anterior surface of the quadratus lumborum and extending on up into the lumbar gutter as high as possible. A complete ureterolysis was performed down to the pelvic brim. When the kidney was placed high in the lumbar gutter all ureteral kinks were completely reduced. In order to produce as little renal trauma as possible a Deming type suspension was performed. The technique is essentially one of forming a sling for the lower pole of the kidney by anchoring Gerota's capsule to the quadratus with mattress sutures in such a fashion that the kidney is held as high as its pedicle or ureter will permit. By using this method no suturing of or interference with the true renal capsule is required. The abdominal wall was closed in layers about a small Penrose drain placed in the upper angle. The patient was returned to her bed in good condition and placed once again in the Trendelenberg position.

The postoperative course showed no febrile reaction. The usual amount of serosanguinous drainage was present on the initial dressing. The kidney was excreting quite satisfactorily and showed no evidence of reflex anuria or oliguria. The Penrose drain was removed on the second day, the skin sutures on the seventh. The Trendelenburg position was maintained until the thirteenth day at which time she was permitted to sit on the bedside; she was allowed up on the fourteenth day. A check cystoscopy at this time revealed the bladder to be normal. Indigo-carmine was excreted in four plus concentration in five minutes. A No. 7 ureteral catheter was passed to 20 cm. and 9 cc. of microscopically normal urine was aspirated. A gravity retrograde study was performed with the patient in both the Trendelenburg and upright positions.This study showed the right kidney to be fixed with its upper pole at the eleventh rib; the pelvis and calyces show marked contraction almost to the point of normality; the ureter was moderately dilated and slightly tortuous. (Fig. 3).

During the first three postoperative weeks she had gained two and one-half pounds. Her appetite

(Figure 3.) A post-nephropexy x-ray with the patient in the upright position showing the kidney to be fixed in a high position and considerably smaller. The ureter is also in good alignment though still slightly tortuous.

continued to be ravenous. Both wounds were healed and firm. Her only complaint was an occasional left lower quadrant pain which responded favorably to tincture of belladonna. The urine was crystal clear and microscopically normal.

SUMMARY

A 36 year old woman with far advanced bilateral renal disease presented the secondary or constitutional symptoms of renal infection and impeded drainage. The relative insignificance of the primary symptoms initially masked the true diagnosis. A left atrophic, nonfunctioning, pyonephrotic kidney was initially removed followed in three months by a right side ureterolysis and Deming nephropexy. The immediate postoperative course to date, though of short duration, has been highly encouraging.

TREATMENT OF PROBLEM CHILDREN

Problem children require tedious study, and an attempt should be made to restore the child's total person. In the realm of nutrition alone, the physician could contribute effectively. In hypoplastic states, all endocrinologic possibilities should be studied. In puberal evolution, sex education by the physician or instructed parent would simplify the adolescent's life and permit a more efficient growth. Shaming of masturbation should be condemned by physicians. Children should not associate shame or terror with genital functions. Children in long convalescence should be supervised to avoid unhealthy preoccupations, and to be given guidnace to help them live with their limitations. Deformities should be corrected if this is at all possible. If not, the parent should be instructed to guide the child into a suitable vocation. More detailed examination of the eyes and ears may bring to focus a defect falling within possibilities of correction, and thus removing factors often causative of maladjustment in the school. The electroencephalograph should be utilized to discover any cortical dysrhythmias. Detailed medical histories may bring to light the possibility of encephalitis, and after treatment plans for the "bad child."

All told, the chief ingredient of any medical treatment of problem children is love of children to such a degree that it will educe love from children's parents and keepers.

To be most effective in combating delinquency, the physician becomes a member of a team, working closely, consisting of the parent, teacher, social worker, nurse, psychologist, and psychiatrist. In this way the whole child will be studied and treated. —A. S. Church, M. D., in *N. Y. State Med. J.*

Tuberculosis Abstracts

Furnished Through the Courtesy of The West Virginia Tuberculosis Association

THE TUBERCULOSIS DEATH RATE IN WARTIME

As the war has progressed, persons interested in the problem of tuberculosis control, and in fact the general public, have evinced considerable concern regarding the trend of the country's death rate from tuberculosis.

Inasmuch as war conditions usually lead to an increase in the incidence of tuberculosis a rise in the death rate was to be expected in 1943, the second full year of American participation in the war. For this reason the decline registered is even more encouraging than those recorded in previous years. In view of the chronic nature of the disease, however, several years may elapse before the impact of war conditions is reflected in a mortality rise. Therefore, we must all realize that the probability of an increase in the incidence of tuberculosis is enhanced each day the war continues.

The decline in tuberculosis mortality has continued steadily each year since 1936 and, with the exception of two minor interruptions, each year since 1918. These sustained decreases must be attributed to quite a number of factors, among which are:

1. Greatly improved and enlarged facilities for the care of the tuberculosis, including better managed sanatoria and thousands of additional beds; a higher standard of clinic service and of public health nursing service, as well as a great improvement in health administration generally.

2. Earlier diagnosis and improved methods of diagnosis, including mass X-ray surveys among apparently healthy adults.

3. Recognition on the part of patients and their families of the importance of sanatorium care with the result that a much larger proportion of infectious patients have been segregated, thus minimizing the spread of the disease.

4. Increasing awareness of the tuberculosis problem and acceptance of the greatly amplified program of health education.

5. Decided improvement in the standard of living throughout the country.

6. Intensive efforts directed toward certain groups, such as high school and college students,

medical students, nurses, expectant mothers and efforts have been directed toward industrial employees, Negroes and Spanish-speaking people, and men and women who are being examined for service in the armed forces.

The most interesting trend noted in 1943 is the fact that so many of these increased death rates are concentrated in the industrial states of the northeastern and north central sections of the country, while, on the other hand, even more pronounced declines are noted in the states of the south and west.

According to one theory, these increased rates in our industrial states may indicate rising mortality from tuberculosis in the country as a whole. Others are of the opinion that the stupendous migration of the past few years may have resulted in a realignment of the American people—to some extent, at least, on health grounds. Only time can determine which of these two hypotheses is correct.

The abnormal conditions incident to the war have affected the population distribution in the states more than is usually realized. Internal migration, both civilian and military, has resulted in decreased population in the northeastern and north central states, while in the south and west the population has increased materially since the date of the last decennial census in 1940.

The assignment of millions of the country's healthiest young men and young women outside continental United States and the elimination of their number from population estimates upon which death rates are based, have had the effect of raising tuberculosis mortality slightly in the country as a whole. Many more millions of our healthiest young citizens have likewise been assigned to training camps which are largely concentrated in the states of the south and far west, where climatic conditions facilitate military training throughout all months of the year.

Since all (or approximately all) of these young people had been recently X-rayed it is highly probable that the deaths from tuberculosis among their number would have been negligible in 1943; yet 2,500,000 of them were eliminated from the population base on which the death rate is computed.

Simultaneously other millions of all ages whose state of health is unknown have migrated to and fro without pattern in search of industrial employment. It is quite possible that this population upheaval, which has no parallel in American history, will affect the trend of tuberculosis mortality in the states for years to come.

The difficulties of computing sound death rates in these days of major population shifts cannot be appreciated until one makes an effort to obtain population estimates for a given date, to evaluate the extent of the changes in a given community, and to analyze the effect of the population changes on the death rates.

Changes in the size of a state's population are allowed for when death rates are computed on the basis of the best available population estimates. But changes in the age, sex and color composition of the population cannot be taken into consideration until a new population census has been taken. Obviously, no population census will prove to be worth while until the people of the country have had a few years to settle down after the war.

What is Happening to the Tuberculosis Death Rate? Mary Dempsey, American Review of Tuberculosis, December, 1944.

FIGHTING DERMATOLOGIC PLATITUDES

Another cross borne by the dermatologist is the disposition of the public to link skin outbreaks to the blood or to organs not definitely implicated. What more meaningless sayings exist than "you have blood trouble" (acne, furunculosis); "too much acid in your system" (eczema, psoriasis); "liver is out of order" (keratoses, chloasma)? Granting that some of the diseases mentioned are not clearly understood and that many doctors feel they should give a definite cause when pressed for one, the attempt should be made to raise the patient's outlook above terms that mean nothing and lead to false conceptions. In treatment he has already leaped from sulphur and molasses to sulfa drugs and vitamins. Let us try to be more explicit in etiology. Psoriasis can be explained as probably caused by metabolic defects; boils as follicular infections; chloasma as often due to endocrine dysfunction.

The medical columnists have already put advanced ideas into the heads of the public although even they also occasionally dip into old fashioned concepts.

Our patient was happier with his platitudes, as was the savage in his natural environment, but we cannot leave him there. We must carry him along with us to more rational viewpoints.—E. F. C. in *Pennsylvania Medical Journal.*

The President's Page

The meeting of the House of Delegates at Clarksburg on Monday, May 14, was well attended with nearly all component medical societies in the state represented by one or more delegates. All of the business that was to have come before the annual meeting of the State Medical Association was handled expeditiously, there being but slight argument concerning the increase in annual dues from ten to fifteen dollars. Personally, I think this increase is justified and quite proper. The Association cannot possibly break even financially at the old rate with but approximately 920 members paying dues at this time.

The small increase in dues will protect the treasury and possibly build up a small surplus for the future. I hope that some day the State Medical Association will wage a campaign among its members and raise sufficient money to build a permanent home where the records may be kept and business transacted. The Association should by all means maintain at its headquarters a medical library complete in character and available to all members.

The outstanding event of the meeting was the election of your friend and mine, Andy Amick, to the presidency. The Association is especially fortunate in having Andy as its guiding light through next year when there will be so much work to be done. I will be happy to step aside, knowing full well that the association will continue to progress under such able leadership.

The local committee on arrangements of the Harrison County Medical Society, composed of Drs. Post, Langfitt and Wilson, did a wonderful job. Everything was all that could be expected or desired, from the open house on Sunday night to the luncheon on Monday. On behalf of the State Medical Association, I wish to express to this committee representing the Harrison County Medical Society, sincere appreciation for their endeavors.

Thomas R. Harris

President.

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THE NEW PRESIDENT

In the selection of Dr. Andrew E. Amick, of Charleston, as president, the House of Delegates of the West Virginia State Medical Association has taken into consideration the loyal services of a member over a period of years, recognizing his worth as an officer, and rewarding him by elevating him to the highest office within the gift of the Association.

Doctor Amick has been an active member of Kanawha Medical Society for years, having served as its secretary and president. He has at all times taken an active part in the work of the State Medical Association, serving as a member of various important committees. At the present time, he is chairman of the section on pediatrics, and a member of the state procurement and assignment committee.

From 1940 to 1944, the president elect served as a member of the Council, attending meetings regularly. His service on the Council alone would qualify him for the important duties which he will be called upon to discharge as president of the Association, as he participated in all of the deliberations of that body for two full terms, ending last January.

As president, Doctor Amick will have the opportunity to use his talents for the greater good of the profession. There is much work to be done, especially with the return of our members from the armed forces. It will be the duty of the president to develop and carry through a program of rehabilitation and relocation for these members. His native ability, experience and long training, plus unbounded enthusiasm and worlds of energy, are assets that will help the new president successfully guide the destinies of the Association through 1946.

Doctor Amick has shown that he possesses all the qualities necessary for sound leadership, and he will take office with the assurance that the entire membership stands solidly behind him in any constructive program he may adopt for the good of the profession.

THE FUNCTION OF THE SPLEEN

There has been for many years considerable divergence of opinion concerning the function of the spleen. Indeed, one prominent physiologist when asked his opinion regarding its function facetiously replied, "To grow big in certain fevers." On the other hand there are physiologists, and these are in the majority, who feel that the spleen performs definite functions. These men consider that it serves particularly under conditions of stress, that is, during physiologic emergencies.

The distinguished English physiologist, Sir Joseph Barcroft, working with the cat, showed many years ago that the spleen is capable of storing at least one-sixth of the entire number of red blood cells found in the body. In all fairness, however, it should be stated that later work has shown that this storage function of the spleen is probably not as important as it is in some of the lower animals. Barcroft showed also that the spleen decreases in size during anoxic states. During pregnancy, too, he found it became smaller, presumably so more blood could be provided for the turgid generative organs and the fetus.

It is currently believed by some clinicians that following splenectomy, human beings are apt to suffer from a low grade anemia which may persist throughout life. The splenectomized animal has been the subject of considerable research. It is known, for example, that when such animals are subjected to lethal concentrations of carbon monoxide, they die much sooner than normal animals.

It is also thought, although not definitely proved, that splenectomized animals cannot withstand extreme anoxic states as well as normal animals.

These experiments suggest that the spleen may well be of value to the organism during physiologic emergencies.

In a recent issue of The Journal,[1] Dr. Doan, of Ohio State University, wrote as follows: "The spleen is not, apparently, essential for the maintenance of human life or health at any age and, therefore, may be removed without prejudice to future hemolylopoietic equilibria and longevity." This statement is of especial interest since it is the opinion of an investigator who has made many important contributions to the literature concerning the physiology and pathology of the spleen. It would seem, then, in the light of Doan's researches, that the burden of proof lies with those who advocate that the spleen is an organ essential for normal health.

THE NEUROPSYCHIATRIC ACT

One of the really worthwhile by-products of World War II has been the general awakening in America to the enormous problem of mental health and to the necessity of taking active steps to solve our neuropsychiatric problems. It is indeed gratifying, therefore, to note the efforts now being put forth toward making our populace mentally healthier and consequently better and happier. The movement which looms potentially largest now is the bill (H. R. 2550) introduced into the Congress on March 9 by Congressman Priest, of Tennessee, which provides for a National Neuropsychiatric Institute and a National Advisory Council of the United States Public Health Service, consisting of the Surgeon General and six members appointed by him from leading medical or scientific authorities outstanding in the study, diagnosis, or treatment of neuropsychiatric disorders.

The central research hospital provided for, the National Neuropsychiatric Institute, will be at Bethesda, Maryland, as one of the group of United States Public Health Service units there. Moreover, grants-in-aid for research under other than USPHS auspices will be provided for, thus taking into consideration the principle that, if studies are to be valid, people must be studied where they are and as a part of their social setting, and that at least a goodly segment of the research must be decentralized, and hospitals, universities, clinics and other facilities must be helped financially to pursue the research leads which their every-day work brings to them.

The grants to states will be channeled through the state health departments for use in the mental hygiene and welfare programs of the individual states. West Virginia is especially fortunate in that the last legislature authorized the creation of a division of mental hygiene in the state health department, and we can be ready to utilize such federal financial aid as may be allotted us.

The enactment of such a comprehensive program into law by the Congress will go far toward combatting our mental ill health, but we as physicians should ever keep in mind that any health program of whatsoever nature depends, in the final analysis, upon us, and that, unless we are energetic and progressive in meeting our obligations to mankind, all programs for better health and the eradication of disease must ultimately fail.

PHYSICIAN VITAL STATISTICS

With the short-sighted, aye, even stupid policy of the federal government toward occupational deferment of medical and premedical students, the vital statistics of our profession become vital indeed, not only to ourselves as individuals, but to the entire population. Accordingly, the report of the Council on Medical Education and Hospitals, which includes statistics on medical licensure, is of especial interest. This compilation, presented in the May 12 issue of *The Journal of the A. M. A.*, discloses that there were 6,933 physicians licensed for the first time in 1944. During that year, 3,627 doctors died, leaving a net increase of 3,306.

The number of accessions, says *The Journal*, is the "largest added to the profession for many years, including the years 1936 to 1941 when large numbers of foreign graduates were licensed and added to the profession in this country. The number of foreign graduates licensed last year was fewer than at any other time since 1935." Continuing, *The Journal* says:

The newest compilation shows that the number of physicians removed by death in 1944 was 3,627, which was 245 more than in 1943.

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From these figures it would appear that the physician population in the United States during 1944 was increased by 3,306. "Many more than this latter number," the report explains, "were added to the armed forces as medical officers in 1944, so that there has resulted an actual decrease in physicians available to civilians in the course of the year. In view of the accelerated program, one might expect that additions to the profession would be considerably higher. While two classes were graduated from most medical schools in 1943, the number of physicians added to the profession in that year did not increase, since many physicians who obtained M. D. degrees in December of that year were not able to receive licenses until early in the year 1944, owing to administrative details. In 1944 the number in this group was 979 more than in the previous year. . . ."

"Estimated figures indicate that on Jan. 1, 1945, the number of physicians in continental United States, including those licensed in 1944, was 191,689. Excluding physicians who are in military service, engaged in full time hospital work, retired, engaged in full time teaching or not in practice, there remain approximately 100,000 physicians in private practice, some of whom are part time teachers . . . ."

During the year 1944, 9,606 licenses to practice medicine and surgery were issued by the medical examining boards of the forty-eight states, the District of Columbia, Alaska, Puerto Rico and the Virgin Islands. Of the 9,606 licenses issued, 7,035 were issued after examination and 2,571 by reciprocity agreements or by the endorsement of other state licenses or the certificate of the National Board of Medical Examiners.

The greatest number of licenses during the calendar year 1944 was issued in California, with 912. Three other states licensed more than 700: Pennsylvania 898, Ohio 837 and New York 788. Twenty-two states, the District of Columbia and the territories and possessions licensed fewer than 100. None were licensed by examination in Wyoming. The least number of licenses was issued in North Dakota, totaling 7.

Twenty-three approved schools in the United States had no failures before medical licensing boards, thirty-two approved schools had less than 5 per cent and six approved schools between 5 and 10 per cent. While no compilation of recent graduates has been made, only 2.9 per cent of the 5,432 graduates of the approved medical schools in the United States failed during the calendar year 1944. Failures exceeded 45 per cent among the the graduates of unapproved medical and osteopathic schools examined by medical examining boards.

Commenting on the comparative failures, *The Journal* says editorially: "The inadequacy of the educational programs of unapproved schools is clearly reflected in an analysis of failures in licensing examinations. . . ."

Our West Virginia statistics may be of interest to our own profession here at home. During the past year, twenty-four candidates were licensed by examination and twenty-eight by reciprocity. During the same period, 25 West Virginia doctors died, including three killed in action. This leaves a net gain for the state of twenty-seven.

COMMITTEES REPORT

Annual reports of committees are printed in this issue of The Journal, and members of the State Medical Association are urged to read and study them as reflecting the work that has been done during the past year. It is to the doctor's advantage to read all of the reports, from the first concerning the successful campaign of the D. P. A. advisory committee for a revision of the D. P. A. fee schedule, to the last in which the war on venereal diseases is discussed most informatively by the syphilis committee.

HEART-VASCULAR AGING

It is perfectly obvious that a person grows old because aging is an evolutionary process which proceeds with greater or lesser rapidity in various people. Basically, growing old rapidly or slowly lies in the arterial tree and yet we do not know why arteriosclerosis is an inevitable concomitant of aging, nor why it proceeds and develops with alacrity in some people and with tardiness in others. Probably the most important factor is that of inheritance. Every physician knows the importance of heritage in the role of aging, but, unfortunately, we cannot pick our ancestors. The physician sees, repeatedly, families whose members are old when they are fifty years of age; of other families he knows members who, when passed three score and ten, are still young physically and psychically. The person who has a family tree which shows evidence of aging rapidly, usually has a habitus and psyche which are quite characteristic—a tendency to overweight, to have the hypersthenic body structure and to be mentally on the alert, going hard and driving all the time.—Edwin S. Byrd, M. D., in *J. Med. Assn. Georgia.*

General News

DR. ANDREW E. AMICK NEW PRESIDENT OF THE STATE MEDICAL ASSOCIATION

Dr. Andrew E. Amick, of Charleston, was elected president of the West Virginia State Medical Association at the annual meeting of the House of Delegates at Clarksburg, May 14. This meeting was held in lieu of the 78th annual convention, which was cancelled on account of ODT travel restrictions.

Dr. B. S. Brake, of Clarksburg, and Dr. J. B. Thompson, of Oak Hill, were named first and second vice presidents respectively, and Dr. T. M. Barber, of Charleston, was reelected treasurer. Dr. Ivan Fawcett, of Wheeling, was reelected A. M. A. delegate and Dr. James L. Wade, of Parkersburg, A. M. A. alternate. The following members of the council were reelected: Drs. R. D. Gill, Carl E. Johnson, E. A. Trinkle, Walter C. Swann, N. H. Dyer, and W. P. Bittinger.

Former Kanawha President

Dr. Amick was born near Corliss in Fayette County, and received his academic education at Washington and Lee University and West Virginia University, graduating from the latter institution with the degree of B. S. in 1923. In 1925, he graduated from the Medical College of Virginia with the degrees of M. D. and Ph. G. He was licensed in West Virginia the same year and located for the practice of his specialty, pediatrics, at Bluefield in 1927, moving to Charleston in 1930. During World War I he served as a first lieutenant in the infantry.

Dr. Amick is a former secretary of the Kanawha Medical Society and was president in 1943. He was a member of the Association's Council from 1940 to 1944. At present, he is chairman of the section on pediatrics and a member of the state P. and A. committee.

Ellender Bill Indorsed

The meeting was called to order at 10 A. M. by Dr. Thomas L. Harris, president, and after the invocation by the Reverend John F. Nelson, pastor of the Central Christian Church at Clarksburg, Dr. Harry V. Thomas, president of the Harrison County Medical Society, delivered the address of welcome. Dr. Russell B. Bailey, of Wheeling, responded for the members of the House of Delegates.

Doctor Harris delivered a short address, in which he spoke of the work that lies ahead, and suggested that great care should be exercised in the selection of all officers.

The House unanimously adopted a resolution endorsing the bill (S. 637) introduced in the United States Senate by Senator Allen J. Ellender, of Louisiana, providing for the deferment of qualified pre-medical students and the assignment of acceptable men in the armed forces to pre-medical and medical schools.

Tuberculosis Committee

The by-laws were amended at the request of the Council to provide for the appointment of a standing committee on tuberculosis. The duties of the new committee will be as follows:

> "It shall be the duty of the Tuberculosis Committee to encourage and aid recognized physicians and all tuberculosis bodies in establishing a systematic, correlated and harmonious procedure in the fundamentals of early diagnosis, intensive treatment, and control of tuberculosis, with a close relationship with the division of Vocational Rehabilitation of the Department of Education with reference to the recovered tuberculos; to study and report on the medical problems in tuberculosis and render advisory service to the medical directors of state sanatoriums; and, to assist in the maintenance of a high degree of medical service to all patients."

Constitution Amended

All of the amendments to the constitution proposed at the meeting at Wheeling in 1944, were adopted. The amendments provide that the vice presidents shall be members of the council; that the place for holding each annual session shall be selected by the House of Delegates and the date fixed by the Council; that officers shall be elected by the House of Delegates at each annual meeting (the old by laws provided for their election on the evening of the first day of the session); and that dues in the amount of $15.00 shall be paid by members annually, instead of $10.00, as in the past.

The secretary was authorized to have the constitution and by-laws as amended printed in pamphlet form and distributed to all members of the State Medical Association.

Proposed Amendment to Constitution

Another amendment to the constitution, sponsored by the Cabell County Medical Society, which will be voted upon at the meeting in Huntington in 1946, provides for the election, with the approval of the Council of the State Medical Association, of affiliate members of component societies, who, although doctors of medicine, cannot qualify for licensure in West Virginia.

Dr. Thomas L. Harris was authorized to appoint a special committee on the relocation and reestablishment of doctors returning from military service.

Section Officers to Hold Over

The House reelected all of the members of the committees on child welfare and maternal welfare. Dr. J. E. Page, of Clarksburg, was named as a member of the committee on maternal welfare to represent the third congressional district. The chairmen of these committees are to be named by the president elect.

It was unanimously agreed that all officers of sections are to continue in office until the next meeting of the house of delegates.

Charter Surrendered

The House accepted the surrender of the charter of the Lewis County medical society, which merged on October 20, 1944, with the Central West Virginia medical society.

Scientific Work Committee

The scientific work (program) committee for the ensuing year was named by Dr. Amick, president elect. Dr. William R. Laird, of Montgomery, is the chairman, and Drs. Raymond M. Sloan, of

Huntington and Herbert M. Beddow, of Charleston, are members.

1946 Meeting at Huntington

Huntington was selected as the convention city for the 79th annual meeting in 1946. The dates will be fixed by the Council at a meeting to be held later this year.

The delegates were entertained at an open house at the Waldo Hotel, Sunday evening, May 13, by the members of the Harrison County Medical Society. A luncheon sponsored by the society was held at the Waldo, Monday at noon, and Lt. Commander E. Lyle Gage, of Bluefield, who has been chief of medical service in a general hospital in Sicily for the past two years, was the guest speaker.

PSYCHIATRIC COMMITTEE PLANS MEETINGS

A meeting of the Psychiatric Committee was held at Huntington, May 20, at which reports from county societies concerning the proposed psychiatric seminars were considered, and further plans made for such seminars, which will probably be arranged for late summer or early fall.

Several societies have indicated a desire to participate in the psychiatric program, and it seems probable that a series of three meetings over a period of not to exceed a month will be arranged for the various component societies which are interested. These meetings will probably last an afternoon and evening, with adjournment set for an early hour.

Complete plans will be announced just as soon as it is ascertained what speakers will be available, and what dates can be arranged for their appearance in this state.

The meeting, which was arranged by the chairman, Dr. O. B. Biern, of Huntington, was attended by the following members: Drs. James L. Wade, of Parkersburg; E. J. Van Liere, of Morgantown; E. F. Reaser and Capt. John P. Lambert (MC), **ex officio,** of Huntington; and Mr. Charles Lively, secretary, **ex officio,** of Charleston.

Several guests were present at the invitation of the committee. Participating in the discussions were Capt. R. H. Felix (MC), USNR, chief of the division of mental hygiene, USPHS, Bethesda, Maryland; Dr. George S. Stevenson, medical director of the national committee for mental hygiene, of New York City; Col. William H. Dunn (MC), psychiatrist in chief, 5th service command, Fort Hayes, Columbus, Ohio; Miss Charlotte Gluck, psychiatric worker for the Family Welfare Society, of Huntington; and Dr. Joseph J. Lawless, director of student health services at West Virginia University, Morgantown.

NEW TB STAFF MEMBERS

In an effort to step up the tubreculosis control program in West Virginia, the state health department has appointed Mrs. Patricia W. Warren, of Shepherdstown, as acting health education consultant in the bureau of tuberculosis. The appointment of Mrs. Warren, who is a graduate of the department of public health at Yale medical school, was made possible by the receipt of federal funds to be used in the campaign for the control of tuberculosis.

AVERAGE BIRTH REGISTRATION IN WEST VIRGINIA BELOW 90 PERCENT

A study of birth registration in West Virginia, made and reported by Hi Eastland Steele, director of the division of vital statistics, state health department, shows that the percentage of registration ranges from a high of 97.6 in Ohio county to a low of 66 percent in Grant county. The state average is 86.5, with cities of 10,000 or more population showing 91.8 percent, and cities under 10,000 population and rural areas showing 84.9 percent. Eight counties fall below 80 percent. The registration of whites is much higher than among negroes, and is higher in cities than in rural areas.

According to Mr. Steele, the statistics, which were compiled by the United States Bureau of the Census, indicate where our weakness lies. "This is a situation which should be corrected," he says. "It is possible to attain accuracy and completeness in registration. The first responsibility for reporting rests with the doctor, midwife, or other attendant at the birth of a child. If no person be in attendance, it is the privilege and responsibility of either or both parents to ask for registration of the birth of the baby." Mr. Steele feels that no one person or group of persons is responsible for registration. Local registrars, doctors, midwives, undertakers (in the case of death registration), parents, and the division of vital statistics must all assume responsibility.

Mr. Steele is of the opinion that failure to record even one birth is a dis-service to some child who may have a very real need for a certificate later. The failure to register even a few births handicaps the entire community, which is dependent upon accurate information for planning health programs and other community services.

Registration of birth is important to the state in order that proper statistics may be kept for use in making accurate records of population increases, availability of labor forces, incidence of disease, etc. The following is the reported percentage of birth registrations, by counties in West Virginia, for 1940:

County	*Percent*	*County*	*Percent*
Barbour	80.8	Marion	92.3
Berkeley	86.7	Marshall	83.1
Boone	85.9	Mason	85.8
Braxton	87.3	Mercer	85.0
Brooke	92.6	Mineral	96.9
Cabell	92.0	Mingo	77.2
Calhoun	80.5	Monongalia	87.2
Clay	90.0	Monroe	88.2
Doddridge	72.6	Morgan	86.8
Fayette	89.3	Nicholas	80.4
Gilmer	76.4	Ohio	97.6
Grant	66.0	Pendleton	73.3
Greenbrier	90.5	Pleasants	83.3
Hampshire	87.8	Pocahontas	86.9
Hancock	92.2	Preston	81.6
Hardy	79.7	Putnam	84.2
Harrison	86.8	Raleigh	82.2
Jackson	83.0	Randolph	82.5
Jefferson	84.5	Ritchie	88.5
Kanawha	87.4	Roane	88.7
Lewis	84.2	Summers	94.0
Lincoln	76.2	Taylor	89.5
Logan	87.1	Tucker	91.5
McDowell	86.2	Tyler	90.2

County	Percent	County	Percent
Upshur	82.5	Wirt	88.1
Wayne	83.3	Wood	93.0
Webster	87.9	Wyoming	69.3
Wetzel	82.9		

A state is required to maintain an average birth registration of 90 percent in order to be included in the birth registration area of the United States. According to the census test, twenty-eight states and the District of Columbia showed a birth registration of 95 percent or more, while the registration was less than 90 percent in sixteen states.

EXECUTIVE SESSION OF COUNCIL

An executive session of the Council of the State Medical Association was held at the Chancellor Hotel, in Parkersburg, April 29. At a short business meeting preceding the executive session, the chairman was directed to recommend to the House of Delegates at the meeting at Clarksburg on May 14, an amendment to the by-laws to provide for the appointment of a standing committee on tuberculosis. The appointment of this committee was strongly urged by Dr. David Salkin, superintendent of Hopemont Sanitarium. The members were unanimous in the opinion that such a committee should be added to the list of standing committees of the State Medical Association.

The chairman of the Council was also directed to appoint a committee of three members of the State Medical Association to consult with the insurance commissioner and the deputy insurance commissioner with reference to the advisability of recommending the adoption of a shortened form for use in connection with examinations for disability insurance. Drs. W. C. Stewart, Randolph L. Anderson and W. W. Point, all of Charleston were appointed members of this committee.

The report of the treasurer, Dr. T. M. Barber, submitted in the form of a copy of the audit of the finances of the Association made in January, 1945, was received by the Council.

Taking unofficial notice of the slight decline in membership during the past three years, several members suggested the advisability of enlisting the aid of component societies in a campaign to enroll as members all doctors in the state who are eligible and qualified for membership, but who do not now belong to any medical society. No official action was taken in this matter.

Dr. Thomas L. Harris, president of the Association, entertained the members at a luncheon at noon in the Blennerhasset room at the Chancellor Hotel.

The meeting was attended by the following officers and members: Drs. Thomas L. Harris, president, Parkersburg; Robert J. Reed, Jr., chairman of the Council, Wheeling; T. M. Barber, treasurer, Charleston; and R. D. Gill, Wheeling; C. E. Johnson, Morgantown; E. A. Trinkle, Weston; J. E. Wilson, Clarksburg; Walter C. Swann, Huntington; Curtis P. Artz, Grantsville; N. H. Dyer, Bartley; J. L. Patterson, Holden; and Thomas G. Reed, Charleston, members of the Council; Mr. Charles Lively, secretary **ex officio**; and, Miss Catherine Clarkson, assistant secretary.

MRS. U. G. M'CLURE INSTALLED AS PRESIDENT OF WOMAN'S AUXILIARY

At a meeting of representatives of all auxiliaries to component medical societies, held May 14 at the Stonewall Jackson Hotel, Clarksburg, Mrs. U. G. McClure, of Charleston, was elevated to the presidency of the Woman's Auxiliary to the West Virginia State Medical Association. She succeeds Mrs. S. A. Ford, of Beckley, who presided as chairman cf the meeting.

Mrs. Delmas E. Greeneltch, of Wheeling, was named president elect. She will take office at the annual meeting in 1946. Other officers were elected as follows: Mrs. Ralph M. Fisher, Weston, first vice president; Mrs. A. G. Lanham, Ronceverte, second vice president; Mrs. V. A. Deason, Logan, third vice president; Mrs. W. W. Orr, Rachel, fourth vice president; Mrs. Dana T. Moore, Parkersburg, recording secretary; Mrs. Ralph S. McLaughlin, Charleston, corresponding secretary; Mrs. G. A. Ratcliffe, Huntington, treasurer.

MRS. U. G. McCLURE

Following her installation as president, Mrs. McClure announced the appointment of the following standing committees:

Archives, Mrs. H. M. Beddow, Charleston; finance. Mrs. Frank Holroyd, Princeton; historian, Mrs. R. S. Van Metre, Huntington; Hygeia, Mrs. O. D. Barker, Parkersburg; legislation, Mrs. V. E. Holcombe, Charleston; parliamentarian, Mrs. Harry V. Thomas, Clarksburg; program, Mrs. W. E. Hoffman, Charleston; public relations, Mrs. Wilson O. Grimm, Huntington; revisions, Mrs. L. E. Shrewsbury, Beckley; bulletin, Mrs. W. L. Haislip, Wheeling; war participation, Mrs. Harold P. Evans,

Keystone; and, special projects, Mrs. Ralph M. Hogshead, Montgomery.

Reports from the presidents of county auxiliaries were read after the presidential address by Mrs. McClure. Mrs. Ford especially commended the work of the auxiliary to the Academy of Medicine of Parkersburg for the publication monthly of a bulletin, "The Hypo," containing news of the members of the Academy who are now in military service, as well as other interesting news concerning the doctors and their families.

The members of the auxiliary were entertained at a luncheon at the Clarksburg Country Club, sponsored by the auxiliary to the Harrison County Medical Society. Mrs. John F. McCuskey was chairman of the committee on arrangements. The retiring president, Mrs. Ford, was presented with a silver platter at the luncheon.

RELOCATIONS

Dr. A. M. Price, former Kanawha County Health Officer, who has been serving a residency at the Memphis Eye and Ear Hospital at Memphis, Tennessee, for the past few months, has returned to Charleston and is now associated with Dr. W. S. Shepherd.

* * *

Dr. Marie Thomas, pediatrician, of Roanoke, Virginia, has located for the practice of her profession at Huntington.

* * *

Dr. A. J. Viehman, formerly of Hopemont, who has been on the staff at the Dunham Hospital, Price Hill, Cincinnati, has accepted an appointment as a resident in medicine at the C. & O. Hospital in Huntington, and will assume his new duties there July first.

CANCER DEATH RATE DECLINES IN 1944

Deaths from cancer in West Virginia in 1944 totalled 1525, according to provisional figures compiled by the division of vital statistics of the state health department. This represents a decrease of 97 in deaths from this disease reported for 1943, when the total reached 1622. The estimated death rate in West Virginia from cancer per 100,000 population in 1944, was 88.9, compared with 92.4 in 1943. Using the basis of four living persons with cancer for every death, there are approximately 6100 cases of cancer in West Virginia at the present time.

The services of the division of cancer control have been extended to 560 cancer patients needing assistance in financing treatment and care.

HUNTINGTON DOCTOR RETURNS

Lt. Col. W. Byrd Hunter, M. C., of Huntington, who has been stationed at Fitzsimmons General Hospital, Denver, Colorado, for several months, has been given an honorable discharge from the service, and has returned to his home at Huntington.

PROPOSED AMENDMENT TO THE CONSTITUTION

The following amendment to the constitution of the West Virginia State Medical Association, sponsored by the Cabell County Medical Society and offered at the annual meeting of the House of Delegates at Clarksburg, May 14, 1945, will be submitted to the House of Delegates for final action at the 79th annual meeting at Huntington in 1946:

Article IV.

Section 1. Amend section so as to read as follows:

"This Association shall consist of active members, affiliate members, delegates and guests." (The constitution does not now provide for affiliate membership.)

Section 2. Amend the section so as to read as follows:

"Active members. The active members of this Association shall be the active members of the component medical societies. Active membership shall be limited to regular practicing physicians who are duly licensed to practice medicine and surgery in West Virginia."

Amend article by adding a new section as follows:

"Section 3. Affiliate membership. Physicians who are not qualified for licensure in West Virginia, but who are graduates of medical schools with the degree of M. D., shall, with the approval of the Council, be eligible for election to affiliate membership in component societies. Duly elected affliate members shall have all the rights, privileges, and duties of active members, except the right to vote and to hold office, and the duty to pay dues."

Renumber as sections 4 and 5 present sections 3 and 4, respectively.

GOVERNOR ACCEPTS MCV INVITATION

Governor Clarence W. Meadows has accepted an invitation to deliver the address at the 108th commencement exercises of the Medical College of Virginia, at Richmond, June 16. The graduating class numbers 176, including nineteen members who completed their first two years at the School of Medicine of West Virginia University and their junior and senior years at the Medical College of Virginia under the new cooperative plan that has been adopted by the two schools.

HEALTH OFFICER TRANSFERRED

Dr. Walter J. Riley, of Weston, health officer for Disrtict No. 4, comprising the counties of Lewis, Calhoun, Gilmer, and Upshur, who was granted a leave of absence several months ago on account of illness, has recovered and returned to active duty. Dr. C. A. Thomas, who has been serving as health officer during his absence, has been transferred to Romney and placed in charge of District No. 5, which includes the eastern panhandle counties of Hardy, Grant, Hampshire, Mineral and Morgan.

Annual Reports

D. P. A. ADVISORY COMMITTEE

A campaign for the complete revision of fees paid doctors participating in the program of the Department of Public Assistance was successfully waged during the past year by the members of the D. P. A. Advisory Committee. The revised schedule adopted by the committee and presented to the department was accepted almost in its entirety and the new schedule was put into effect shortly after the first of the year.

Several meetings were held with representatives of the Department, and the director, Mr. Robert Roth, and the members of his staff cooperated to the fullest extent in the effort that has been made to adjust fee schedules which our committee has long felt were out of line with conditions as they exist today. The committee feels that the new schedule is acceptable to all doctors who participate in this program.

A fee schedule for use in the Adult Physical Rehabilitation Surgery program was also submitted to the director by your committee, but no action has yet been taken, due no doubt to the fact that the entire rehabilitation program is being transferred on July 1, 1945, to the Department of Education. After that date it will be administered by the new Division of Vocational Rehabilitation, under the supervision of Mr. F. Ray Power, director.

The committee has investigated and acted upon several applications of doctors and hospitals to participate in the A. P. R. program. At the present time, no applications are pending before this committee.

Respectfully submitted:
Hugh A. Bailey, M. D.,
Chairman,
Thomas G. Reed, M. D.
Thomas H. Blake, M. D.

* * *

REPORT OF EXECUTIVE SECRETARY

Close contact with the members in the military service has been one of the chief aims of the headquarters staff for the year just ended. In spite of the frequent changes of address necessitated by the swift movement of our armies and fleets, we have succeeded in keeping up the delivery of the West Virginia Medical Journal monthly to the great majority of those who are serving overseas.

During the past year we mailed a number of bulletins from headquarters, several of which concerned our legislative program. These bulletins were mailed to all members in the military service for whom we had addresses. In addition, we lent aid to many members overseas in obtaining absentee ballots for use in casting their votes at the general election last November.

Committee Meetings

Several of the standing committees have met during the year at frequent intervals, and much constructive work has been done. These committees have had the full cooperation of the headquarters staff. The work that has been done and the results accomplished will be made the subject of reports prepared by these committees which will be printed in the June issue of the Journal.

Legislative Session

For sixty days during January, February and March, the legislature was in session and consultations were held daily with members of the Senate and the House of Delegates in connection with the legislative program of the State Medical Association. A resume of the bills passed in which the medical profession is interested will be found in the reports of the legislative committee and the fact finding and planning committee .

No Annual Meeting

The cancellation of the 78th annual meeting was unfortunate in many respects. The Committee on Scientific Work had arranged a very attractive program, and the Committee on Scientific Exhibit had booked several noteworthy exhibits. Financially, the convention would have been more of a success than ever. A total of 28 technical exhibit spaces had been sold, and for the first time in the history of the Association the receipts from the sale of these booths would just about have paid all of the expenses of the meeting.

Journal Advertising

A substantial increase in advertising in the West Virginia Medical Journal has no doubt been noticed by all members of the Association. For the first time, full pages in color are being used. Two new types of advertising have been accepted: one covers what is known as "bleed" pages, and the other comprises colored inserts which have been used in the past several issues.

Scientific Material Needed

The response of the members to the suggestion that there is always a need for good scientific material has been very gratifying, and while the loss of such material due to the cancellation of the annual meeting has not been entirely offset by papers received from our members, the supply at the present time is much more encouraging than was the case a year ago. However, there is still a very definite need for scientific contributions to the Journal.

Membership Statistics

The total membership has shown a slight decline for the third successive year. While the net loss is only thirteen members, the fact remains that there is a loss instead of the slight gain that is noted each year in normal times. This means that our gains in membership have not offset our losses by death and relocation. The real reason for this loss in apparent. So long as interns and residents enter the service at the termination of their hospital training and before they have an opportunity to become members of component societies, these losses in membership will continue.

As of today (May 14), the membership totals 1310, as compared with 1323 at this time last year. Of this number, 79 are honorary members, and 314 are in the armed forces. It will be observed that of the 1310 members of the Association, only 917 pay dues. No dues are assessed against honorary or military members.

I am very happy to report that all but nine members have paid their dues for 1945. Last year

at this same time, there were 35 delinquents, and in May 1943, there were 56 members who had not paid their dues. The excellent record this year is due in a large measure to the effective work and cooperation of treasurers and secretaries of component societies.

Membership by Societies

The membership by component societies as of May 14 is as follows:

Barbour-Randolph-Tucker	47
Boone	13
Brooke	10
Cabell	125
Central West Virginia	56
Doddridge	2
Eastern Panhandle	27
Fayette	54
Greenbrier Valley	24
Hancock	20
Harrison	81
Kanawha	210
Logan	44
Marion	59
Marshall	18
Mason	4
Mercer	48
Mingo	24
Monongalia	52
McDowell	64
Ohio	94
Parkersburg Academy	74
Potomac Valley	27
Preston	20
Raleigh	74
Summers	9
Taylor	6
Wetzel	11
Wyoming	13

1945 Honor Roll

The following component societies are on the 1945 honor roll, having reported a one hundred per cent payment of dues by members:

Taylor	Kanawha
Wetzel	Mason
Wyoming	Mingo
Potomac Valley	Eastern panhandle
Marshall	Mercer
Hancock	Ohio
Wood	Doddridge
Harrison	Cabell
Logan	Barbour-Randolph-Tucker
Central West Virginia	Boone
Raleigh	Marion

Again I express deep appreciation to the officers and councillors of the State Medical Association and to the officers and members of component societies for their very fine cooperation in all matters pertaining to the work of the headquarters office during the past year.

Respectfully submitted,
Charles Lively,
Executive Secretary

* * *

FACT FINDING AND PLANNING COMMITTEE

Activities of the Fact Finding and Planning Committee during the past year have been confined solely to matters relating to the legislative program of the West Virginia State Medical Association. This program, which was agreed upon jointly by your committee and the legislative committee, was approved by the council and submitted to the legislature in the form of bills introduced in both houses.

The most interesting and certainly the most important part of this program concerns the study of public health problems in this state. In his inaugural address, Governor Clarence W. Meadows suggested this study, and, with the solid backing of the State Medical Association, a concurrent resolution providing for the appointment of an Interim Committee for the purpose was adopted by the legislature without a dissenting vote. The advisory committee to be appointed by the Governor to work with the legislative members will be composed of doctors and representatives of other professional and business groups.

Your committee feels that the adoption of this resolution means much to the profession at this time when there is continued agitation in Congress for government control of medicine. We feel that at last West Virginia is on the march medically and we have faith in the ability of the members of this important committee to provide some plan which will afford adequate medical care and hospital service for the people of this state. The members of your committee stand ready to be of any aid possible in the study and investigation that will be made by the Interim Committee.

Outstanding also in the accomplishments of the legislature was the passage of two bills sponsored by the State Medical Association. One provides that before appointing a state health commissioner or a member of the public health council, the Governor is to call upon the Council of the State Medical Association for a full report concerning the qualifications of the proposed appointee. The other provides that a similar report is to be requested by the Governor from the public health council with reference to the appointment of the medical heads of our state institutions.

Other important parts of the program adopted include the appropriation of $50,000 per annum for the Division of Cancer Control, and the appropriation of funds sufficient to continue the arrangement with the Medical College of Virginia for the enrollment annually in that college of graduates of the two-year school of medicine at West Virginia University.

The greater part of the legislative program of the state health department had the united support of your committee as well as the support of the legislative committee and the Council.

Your committee will continue to function as one of the standing committees of the State Medical Association. We welcome suggestions from members concerning the solution of any problems affecting the profession or that have any direct or indirect bearing upon our relations with the public generally.

Respectfully submitted:
Ray M. Bobbitt, M. D.
Chairman,
D. A. MacGregor, M. D.
John P. Helmick, M. D.
Frank V. Longfitt, M. D.
Carl E. Johnson, M. D.
G. O. Martin, M. D.
R. O. Rogers, M. D.
G. G. Irwin, M. D.
E. A. Trinkle, M. D.

COMMITTEE ON INDUSTRIAL HEALTH

A recent study and survey of accident experiences, sick absenteeism and labor turnover among physically impaired individuals has yielded information which will be of assistance to industrial plants throughout the country in carrying out their responsibilities for placement of disabled veterans and should contribute to the solution of problems affecting many thousands of physically impaired veterans seeking employment following their discharge from service.

With the advancement of medical science saving so many lives there are bound to be a great number of members of the armed forces who have been severely injured who will require rehabilitation in industry. Therefore, we who are responsible for the safety of these men in their future employment must realize the seriousness of this problem and adopt measures which will aid the injured veteran to establish complete confidence in his own ability to adjust himself in assuming his rightful place in his community as a self-supporting citizen, without making him feel that he is an object of maudlin hysteria because of his physical impairment.

In order to properly evaluate this problem we must realize that rehabilitation in its true sense means the proper and judicious placement of these veterans in suitable jobs. In other words, the disabled veteran must be employed with regard to his highest skill within the limits of his physical and mental capabilities as they relate to the requirements of his particular industry. For example, it is not sufficient to place him back on his old job and feel that justice has been done. This same employee may have acquired other talents during his service in the armed forces which might make him a very valuable employee in some other department. It was the lack of consideration of these factors that caused the dissatisfaction apparent on the part of the employer, employee and organizations interested in the welfare of the veterans following the last war.

It should also be understood that medical consultants merely serve as intermediaries with personnel officers and safety engineers in the solution of these problems, which are finally referred to the supervision or management for final adjudication.

This problem of rehabilitation is not new to industry. The question of the returning disabled veterans is merely going to bring it to the forefront. Due to the manpower shortage, it was necessary for private industry to resort to the rehabilitated worker. In 1943, the United States Office of Education invited a group of employers of these handicapped workers to report on the general efficiency of this group as compared with able-bodied workers. Replies were received from more than 100 employers, most of whom were executives of large corporations. These replies indicated conclusively that the physically impaired workers produced as much as, or possibly a little more than, the able bodied workers. A more significant fact, however was that the executives were practically unanimous in reporting that the physically handicapped are dependable, regular in attendance, and careful in the observance of safety regulations. The most recent report of the medical division of the United States Civil Service Commission corroborates this report, except in accident proneness. Poole and Bent, of Lockheed Corporation, also undertook a study of workers in what they classed as a cardiac group and found that when impaired workers with cardiac lesions are judiciously placed in industry, compensation, production and personnel costs are generally not increased as a result of the disability.

We must also realize that the role of the employer in helping disabled veterans is a crucial one. A job does not help solve all a man's problems, but without a job he usually cannot solve any of them.

The industry or employer providing the job is an indispensable adjunct in any plan for helping the veteran. He must, however, be given a job that will not expose him to undue risks, and this will involve careful job analysis to discover what kind of handicaps and disabilities are consistent with different tasks.

Those who have broken mentally under the strain of war deserve, and no doubt will receive the utmost consideration from employers. These mentally-broken men are not psychotic. They merely have given way under unusual strain and need only a certain period of adjustment to a new environment, no matter what type of work they may be forced to take up. It may be necessary to have psychiatric counsel to rehabilitate these individuals.

Your committee urges West Virginia industry to call upon the West Virginia State Medical Association for any aid it may be able to render in the solution of its problems. Indorsing the policy of selective and judicious placement of disabled workers where they may function proficiently and safely for industry, your committee submits the following recommendations:

(1) Where feasible the pre-placement examination should be made only by a physician, preferably one who is familiar with the hazards that may be peculiar to that industry or particular task;

(2) That every possible consideration be given to the employment of impaired, disabled persons after consultation with the medical staff, safety director, engineers, and management personnel.

(3) That in the case of the returning veteran who has suffered some nervous maladjustment, an attempt be made to secure psychiatric consultation before the individual is denied employment, so long as he is not in any hazardous occupation where life or property might be endangered.

(4) That every industry attempt to secure medical consultation even if only a part-time basis. In many instances this can be done by the practicing physician within the confines of the particular plant area, where it will be convenient for him to visit the plant each day, if only for an hour. It is also advisable that the industry employ a full or part-time registered nurse who would be available not only in case of emergency, but who could make a study of any particular hazards, suggest means for their prevention, and give guidance and counsel to the employees.

(5) That where there is a question concerning Industrial health hazards, the Bureau of Industrial Hygiene of the West Virginia State Health Department be called upon for evaluation of such hazards and advice concerning methods of control. Likewise, the Bureau can assist physicians, nurses, and industry to set up health and medical programs in

industry so that the disabled may be employed without undue risk to themselves or others; and,

(6) When a prospective employee who is a war veteran is deemed unsatisfactory mentally or physically for employment in industry he should be advised to apply to the Veternas' Administration for rehabilitation in a veterans' facility. If he is not a veteran, or a veteran not eligible for rehabilitation in a veterans' facility, then he should be urged to contact the division of vocational rehabilitation of the state department of education.

Respectfully submitted,
J. J. Brandabur, M. D.,
Chairman,
W. F. Rogers, M. D.,
J. L. Patterson, M. D.,
J. L. Thompson, M. D.,
C. Scott McKinley, M. D.

* * *

LEGISLATIVE COMMITTEE

The medical legislative program submitted for consideration at the 1945 session of the state legislature represented a joint effort of the legislative committee, the fact finding and planning committee, and the State Medical Association's Council. This report, therefore, must necessarily include the activities of the two committees and the Council.

On the reasonable assumption that the medical profession is the best judge of the qualifications of its own members for public office, certain legislation was proposed which would give the profession a measure of control in appointive power. A bill was accordingly enacted which provides that, before appointing a state health commissioner and members of the public health council, the Governor shall request the State Medical Association to submit a full report concerning the qualifications and suitability of the person proposed for office. A companion act likewise provides that, before making appointments of the medical heads of state emergency, mental and tuberculosis hospitals, the Governor shall request the public health council to submit similar reports on qualifications and suitability. It would seem certain from now on that no person would be proposed for any of the designated positions who could not measure up to the scrutiny of the Council of the State Medical Association or the public health council.

The legislature, by unanimous vote in both houses, adopted a resolution for the appointment of an interim committee to make an over-all study of health conditions and needs in West Virginia. While this is an administrative measure, the proposed study has the full endorsement of the State Medical Association. The committee will be composed of five members each from the Senate and the House and the Governor will appoint an advisory group not to exceed twenty-five members, of which five will be licensed doctors of medicine practicing in West Virginia. The studies to be made are detailed in a copy of the resolution (with some slight later change) printed in the February issue of the West Virginia Medical Journal (page 60). The medical profession is offered an exceptional opportunity to assume unselfish leadership in the development of a constructive program to make available good medical care for all the people of West Virginia.

The repetition of the controversy two years ago over a bill to legalize the status of voluntary medical service and hospital care plans and regulate their operation was avoided this year by an extension for two years more of the emergency law enacted in 1943. A part of the interim committee's study will be concerned with existing plans and recommendations for necessary additional legislation will be made.

The arrangement with the Medical College of Virginia, effected two years ago, by which West Virginia medical students are permitted to complete their last two years of study was continued for another two years by the appropriation for the purpose of $40,000 for the first year of the biennium and $80,000 for the second (increased appropriation necessary on account of the accelerated program of medical education). Likewise, the Division of Cancer Control, created in 1943, is able to go on, even though $50,000 only was included in the budget bill instead of $100,000 asked for originally.

Other measures sponsored successfully by the state health department and endorsed by the State Medical Association included, (a) prenatal serological examinations for syphilis; (b) advisory medical supervision by the state health department of all state hospitals and sanitariums; and, (c) the establishment of a bureau of mental hygiene.

Resectfully submitted,
R. O. Rogers, M. D.,
Chairman,
Frank V. Langfitt, M. D.,
Ray M. Bobbitt, M. D.,
George P. Evans, M. D.,
George F. Grisinger, M. D.

* * *

COMMITTEE ON MATERNAL WELFARE

The Committee on Maternal Welfare has but little to report at this time. Final statistics for 1943 show 43,175 births. The deaths under one year totaled 2303, broken down as follows:

Deaths under one day	527
Deaths, 1-6 days	447
Deaths, 7-29 days	319
Deaths, 1-11 months	1010

The rate per 1000 live-births was 53.3.

For 1944, the preliminary data, which is subject to later revision, shows the total number of births to be 41,125. Infant deaths under one year totaled 2158. This is a rate of 52.5 per 1000 live-births. The breakdown data by days, months and causes of death are not available at this time.

In 1943, there were 1522 still-births. In 1944, 1503. The ratio for 1943 is 1:21.14 live-births, and for 1944, 1:20.70.

It appears to your Committee that these percentages and ratios are high. What the explanation may be is problematic and it does not seem at this time that we can project a discussion of it.

During the year 1944, 6067 maternity cases were authorized for care under the E. M. I. C. program. During this same period, 4502 cases were completed under it. For the first three months of 1945, 1347 cases have been authorized and 1282 have

been completed. A large percent of the latter are cases authorized in 1944.

We regret that your Committee does not have a more detailed and informative report at this time.

Respectfully submitted,
Jas. R. Bloss, M. D.,
Chairman,
E. F. Heiskell, M. D.,
W. E. Hoffman, M. D.,
H. G. Steele, M. D.,
M. B. Williams, M. D.

* * *

NECROLOGY REPORT

The following is a list of West Virginia doctors whose deaths during the past year have been reported to the West Virginia Medical Association:

Capt. Elmer Norval Carter, MC, Huntington, (killed in action in France) ..... June 19, 1944
Carlos Alonzo Gooch, Scarbro ..... July 14, 1944
Charles Matthew Scott, Bluefield ..... Aug. 7, 1944
William S. Steele, Princeton ..... Aug. 27, 1944
Benjamin F. Matheny, Parsons ..... Sept 8, 1944
Thomas Milton Hood, Clarksburg ..... Sept. 27, 1944
Eli Whitney Rose, Hundred ..... Sept. 30, 1944
Harlan Herbert Staats, Charleston ..... Sept. 30, 1944
Richard Vance Lynch, Clarksburg ..... Nov. 13, 1944
Robert Martin Akers, Kermit ..... Nov. 24, 1944
Maj. M. A. Rafferty, MC, Weston, (killed in line of duty in Belgium) ..... Nov. 24, 1944
George Tudor Thornhill, Bluefield ..... Nov. 9, 1944
William Wallace Noyes, Dunbar ..... Dec. 15, 1944
Clarke Wesley Shepherd, Spring Hill ..... Dec. 18, 1944
Capt. A. S. Gersabeck, MC, Maybeury, (died from wounds received in Belgium) Dec. 20, 1944
John Hamilton Hansford, Pratt ..... Dec. 26, 1944
Oaka Sheridan Hare, Bluefield ..... Jan. 22, 1945
Edward Newton Flowers, Clarksburg ..... Jan. 25, 1945
Joe Ray Carder, Clarksburg ..... Mar. 1, 1945
James A. Baker, Middlebourne ..... Mar. 5, 1945
James Lida Montgomery, Ellamore ..... Apr. 7, 1945
Fred Saul Richmond, Bluefield ..... Apr. 9, 1945
Brinley John, Morgantown ..... Apr. 21, 1945
Luster C. McCutcheon, Green Bank ..... Apr. 26, 1945
..... Apr. 26, 1945
Albert C. Earnest, Wheeling ..... Apr. 9, 1945

Requiescant in Pace

Respectfully submitted,
James R. Bloss, M. D.,
Chairman,
H. R. Johnson, M. D.,
Chester R. Ogden, M. D.

* * *

PROCUREMENT AND ASSIGNMENT SERVICE

No formal meeting of the State Procurement and Assignment Committee has been held during the past year, as no problems of any great or unusual importance have been presented for consideration. Routine matters have been handled by the chairman and the headquarters office, and these have consisted mostly of applications for the deferment of commissioned officers to serve residencies in West Virginia hospitals. This class of work has been very heavy at all times, necessitating voluminous correspondence with doctors, hospitals, and procurement and assignment service officials in this and other states.

Recognizing the need for additional clerical help in the headquarters offices of the State Medical Association at Charleston, the War Manpower Commission in August 1944, authorized the employment, at government expense, of a full-time clerk, who has been on duty continuously since September 1, 1944.

Some few doctors in active practice in this state have accepted commissions in the Army and Navy medical corps during the year, but the doctors remaining in civilian and industrial practice are for the most part classified as essential due to the impossibility of providing replacements.

Detailed monthly reports concerning relocations, reclassifications, deaths, and reporting for active duty in the service of physicians in West Virginia are compiled and forwarded to the Central Office of the P. & A. Service at Washington. We endeavor to keep these records current at all times, and to do this we have had to have the full cooperation of the county and area P. & A. committees. We very much appreciate this continued cooperation on their part.

Respectfully submitted,
R. K. Buford, M. D.,
Chairman,
D. A. MacGregor, M. D.,
F. V. Langfitt, M. D.,
R. J. Wilkinson, M. D.,
C. J. Reynolds, M. D.,
Andrew E. Amick ,M. D.,
Lt. Col. R. L. Lambert, (MC), AUS

* * *

COMMITTEE ON PUBLICITY

The Publicity Committee has not been called upon by either the Council, officers, or any of the members of the West Virginia State Medical Association to perform any useful function during this year. The members feel that adequate use is not being made of the facilities of the Committee, and we again reiterate our willingness to serve at all times.

Respectfully submitted,
James L. Wade, M. D.,
Chairman,
W. W. Point, M. D.,
C. O. Post, M. D.

* * *

COMMITTEE ON SCIENTIFIC WORK

The Scientific Work Committee finds itself in the same position as other committees which have been arranging for the annual meeting at Clarksburg, i.e., the program had been completed almost to the stage of presentation and then the meeting was canceled.

The Committee feels that a well rounded and timely program had been arranged and regrets that the Association as a whole could not have received the benefit of its presentation. We had planned radio discussion of medical, surgical and hospital plans, particularly as they apply to the state of West Virginia. We likewise had planned to stress physical rehabilitation of returning veterans insofar as it comes within the province of civilian physicians. During the scientific sessions, it was also planned to have speakers from all branches of the service as well as from the ranks of our colleagues in civilian practice.

The Committee hopes that the program as planned may be printed in The West Virginia Medical Journal in order that the members of the

State Medical Association may see for themselves what has been done.

Respectfully submitted,
James L. Wade, M. D.,
Chairman,
Frank V. Langfitt, M. D.
Hampton St. Clair, M. D.,

* * *

SYPHILIS ADVISORY COMMITTEE

The Syphilis Advisory Committee met at the offices of Dr. L. E. Neal, in Clarksburg, on May 13, 1945, at 8 P. M. In addition to members of the committee, Dr. John C. Hume, USPHS, acting director of the bureau of venereal disease control of the state health department, was present. As a result of this meeting, the committee submits the followng report in which certain observations and recommendations are made:

(1) It is desired to emphasize the importance of reporting of venereal diseases. In addition to being a legal obligation of the medical profession, this procedure is a vital part of the venereal disease control program.

(2) Each physician in the state should familiarize himself with the provisions of the new law requiring serologic tests for syphilis on pregnant women. This law becomes effective June 5, 1945. Full information concerning the provisions of the act is printed in the April and May issues of the West Virginia State Medical Journal.

(3) The Committee wishes to commend the council of the State Medical Association and the public health council for their action in approving the acceptance of the Kanawha Valley Medical Center by the State Health Department in the event the federal government offers to transfer this institution to the state. This center has done excellent work and is a vital part of the venereal disease control program in West Virginia. Physicians of the state are urged to make full use of this institution for the treatment of infectious venereal diseases and asymptomatic neuro-syphilis.

(4) Your committee submits the following observations with reference to the use of penicillin in the treatment of venereal diseases:

(a) The use of penicillin in the treatment of syphilis has not as yet been evaluated and is still on an experimental basis. The penicillin panel of the Office of Scientific Research and Development has not made specific recommendations for its use in the treatment of syphilis. If penicillin is used in the treatment of syphilis, your committee urges that it be given in accordance with established standards of administration, e. g., it should be given intramuscularly at intervals not exceeding three hours with a total dosage of at least 2,400,000 units and over a period of 8-9 days. The development of this drug should not cause physicians to abandon the use of established treatment methods until the status of pencillin is fully appraised.

(b) The committee urges that when given in the treatment of gonorrhea, pencillin be given intramuscularly according to evaluated schedules, e. g., a total dosage of 150,000 units given every three hours intramuscularly in doses of 20,000 units or a total of 200,000 units given intramuscularly in doses of 67,000 units at two-hour intrevals over a four-hour period. It condemns the administration of pencillin in varying total dosages when the drug is administered in two doses given at 8-12-hour intervals.

(c) When pencillin is used in the treatment of gonorrhea, patients should be followed for at least four to six months, both clinically and with serologic tests, since the dosage used may mask the symptoms of syphilis and prolong its incubation period.

(d) It is realized that the use of pencillin is still under intensive study and that specific recommendations as to the use of this drug in the treatment of syphilis may soon be forthcoming

(5) Your Committee wishes to emphasize the importance of securing examination of the cerebro-spinal fluid in all cases of syphilis. This should be a routine part of the treatment of each case.

(6) The question of how soon a physician can safely certify an applicant for a marriage license as to his non-infectiousness following foreshortened methods of treatment was discussed. It is felt that since practically all clinical and serologic relapses following intensive treatment occur within the first year, a physician may safely consider non-infectious an individual who maintains negative clinical and serologic findings at the end of one year following treatment.

(7) Following the use of intensive treatment methods, serologic tests for syphilis revert to negative at the same rate of speed as with the routine prolonged treatment schedules. For this reason, patients should not be re-treated following intensive treatment on the basis of a positive serologic test alone.

(8) It would still seem wise to re-treat women who have been treated for syphilis by intensive methods during any subsequent pregnancies, since there is at present no adequate standard for ascertaining the potential infectiousness of a woman for her offspring.

(9) The use of the so-called "Cord Wasserman" as the basis for making a diagnosis of syphilis in a child is condemned since this test reflects the reagin of the mother and not necessarily that of the infant.

(10) The physicians of the state should acquaint themselves as to the proper interpretation of serologic tests for syphilis. It is advised that they become familiar with the recommendations of the

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committee for evaluation of laboratories performing serologic tests for syphilis from year to year. Your committee wishes to point out that it is the duty of the laboratory director to see that good serologic tests are performed in his laboratory, that he repeat the tests on specimens giving doubtful or equivocal results, if necessary submitting specimens to other laboratories, and, finally, that he acquaint his clientele as to the relative sensitivity and specificity of various tests performed in his laboratory on the basis of the yearly evaluation. It is the duty of the physician to interpret the results of these tests in the light of his clinical findings.

As one means of obtaining information with reference to the proper interpretation of these serologic tests, it is suggested that the various county medical societies invite Dr. Robert D. Wright, of the Kanawha Valley Medical Center, and Dr. John C. Hume, of the state health department, to discuss this problem at one of their meetings. Arrangements for such a program may be made through Dr. Hume.

Respectfully submitted,
C. A. Hoffman, M. D.,
Chairman,
Howard T. Phillips, M. D.,
L. E. Neal, M. D.,
M. L. Bonar, M. D.

* * *

CONSERVATION OF VISION AND HEARING

Your committee on Conservation of Vision and Hearing has spent some time studying the new treatment being given for the rehabilitation and conservation of hearing in the deaf, especially in the case of veterans, who will be interested in the work being done by the Pittsburgh League for the Hard of Hearing, where two types of lip reading are being demonstrated with remarkable results.

On April 29, 1945, in company with members of the Pittsburgh Otological Society, we spent the day with the staff at the Deshon General Hospital at Butler, Pennsylvania. Although there are three stations of this character in the country, there is only one in the east. More is probably being offered at Deshon than at any other place. Major Truax and his staff are doing excellent work there, and have devised for their own use equipment valued at probably $70,000 to $80,000. I think that we will all benefit immensely from any reports that may be distributed from Deshon.

There are a number of men at Deshon who are blind as well as deaf. The main problem there has been the matter of the direction of sound. It is very important that the blind man knows where the automobile horn sound comes from. Many men have been totally unable to ascertain where sound comes from.

At Deshon, they have devised a room with a window, and the technician stands there with a microphone so she can talk to them. They have a hearing aid. There is a loud speaker in the floor, one in the ceiling and one in all four walls, and several of those go on at a time, and the man is trained definitely to learn where the sound comes from, and before he leaves the institution he does know definitely.

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"TO CARE FOR HIM WHO SHALL HAVE BORNE THE BATTLE"*

By THOMAS L. HARRIS, M. D., President, West Virginia State Medical Association, Parkersburg, West Virginia

It is something to remember that we are living in an era when more men are poised to offer their lives for a great cause than at any other time in human history. With this sacrifice in mind, let me say just a word concerning what I believe to be the duty of a state medical association. It is to help its members escape from being just good, and stopping there. After all, few people are satisfied in being just good. Why? Because it is not enough; it is too safe; it is stagnation.

If no one had ever gotten beyond being merely good and sensible, we would have stopped growing long, long ago. Madame Curie would never have discovered radium. Washington would never have tried to beat an empire with a "rabble in arms." Columbus would never have left Spain and sailed forth, far beyond where it was thought sensible to go. The Wright brothers would never have developed the airplane, which has made all the countries of the world our neighbors. In fact, like the cave man, we would all be in the sorry state of doing just what we consider the sensible thing to do.

The best way to escape this being "just good" is to be so good at something interesting and creative that other people are glad to have us around; to be good at finding work that needs to be done, discovering opportunities that most people overlook, and thinking of things to do that other people forget. This is the way to escape being just good. This is really being a creator, helping something original and unexpected to become real. We were born for this. Certainly we were born to be original, and not one of us likes to have somebody else impose his way of life upon us. The finer the things we can create, the greater the satisfaction. We ultimately learn that we were born to enrich the lives of others, and when we do not help each other, we end in a situation like the present world catastrophe where men are destroying each other.

If the West Virginia State Medical Association is to fulfill its prime purpose of service to humanity, it must be proficient in at least two things: It must help others to live and be healthy so that they can create a shareable life for themselves, and it must create shareable lives for its own members. This is the philosphy of the doctor; this makes us wish to become all we can ourselves while helping others.

We have gradually over the years demonstrated our creative spirit in the numerous committees which have functioned, such as the committee on Maternal Welfare, Child Welfare, Cancer, Syphilis, Industrial Health, Medical Education, and the Fact Finding and Planning committee; and, in my opinion, the most progressive stride was made when the Fact Finding and Planning Committee was appointed by Bob Wilkinson and carried to its zenith by Ray Bobbitt and his associates, since it developed the foundation for many of the hospital and medical service plans in the state. From it has come the legislation that puts the state health department in the hands of the West Virginia State

* President's address at the annual meeting of the House of Delegates, Clarksburg, West Virginia, May 14, 1945.

Medical Association, and not in the hands of the politicians. It places a responsibility on the membership of this association such as it has never before experienced.

You delegates are going to elect councillors today who will recommend to the governor physicians qualified to be appointed members of the West Virginia public health council, which body is charged with the responsibility of recommending to the governor physicians competent and qualified to be superintendents of our various eleemosynary institutions. I ask that you accept this responsibility with the full knowledge that the philosophy of your life is to create for others a healthful existence.

The man in America who first experimented with x-ray was so burned that he was obliged to undergo eighty operations during his lifetime. Just before he died, he could be found each evening on his bed, surrounded by the best surgeons in the world, imparting to them all he had learned in order that the world might benefit.

Apropos of the ideas just expressed, the Bureau of Information of the American Medical Association, created by the House of Delegates in 1944, is now functioning actively to assist returning medical officers in their educational, licensure and relocation problems. Specifically, the aims of the Bureau are considered to fall into three categories:

1. Providing veteran medical officers with information concerning educational opportunities immediately after their term of military service.
2. Providing veteran medical officers with information concerning state licensure and facilitating their procurement of licensure in states other than the state of former practice.
3. Providing the medical officer with information concerning medical, social, economic, financial, and other phases of community life that will enable him to make a wise selection in a permanent location.

MEDICAL EDUCATION INFORMATION

Considerable progress has been made in obtaining information that will be helpful to veteran medical officers in finding suitable educational facilities when they are released from the armed services. The A. M. A. Committee on Postwar Medical Service has prepared a questionnaire for the purpose of gathering as much information as possible from medical officers now on duty concerning their future plans. Upon approval and concurrence of the Surgeons General of the Army, Navy, and the U. S. Public Health Service, questionnaires were mailed to each medical officer on duty with the armed forces. A resume of the first 12,000 returned questionnaires indicates that men desire two types of broad training, (a) short refresher courses in which the major developments in medicine, surgery, and allied fields would be reviewed, and (b) long courses of one, two and three years' duration similar to the present internships and residencies.

INFORMATION ON LICENSURE

Before the Bureau of Information had been established very long, there were many inquiries from medical officers, both those on duty and those released from military service, concerning eligibility for licensure in states other than those in which they were originally licensed to practice medicine. There is every reason to believe that there will be changes in some states relative to reciprocity and licensing of veteran medical officers.

It is to be assumed, or at least hoped, that the licensing bodies in the various states will be generous in their attitude toward the veteran medical officers when they make application for reciprocity or licensure. Certainly if these men were willing to risk their lives for us and for the soldier on the battlefield, they deserve special consideration. Their honorable discharge from the armed forces should be their credentials.

INFORMATION ON MEDICAL PRACTICE

The most important work of the Bureau of Information is supplying the veteran medical officer with information concerning medical practice in various communities. Doubtless many returning medical officers will consider several communities before selecting a locality in which to establish themselves in the practice of medicine.

The Bureau of Information can give invaluable assistance to these doctors in the matter of making a wise selection of a community in which to live and work. To this end a summary sheet was prepared that will provide a thumbnail sketch of various communities. A form that includes pertinent information concerning the medical, hospital, economic, financial, climatic, social, and other conditions of the county also has been prepared.

It may be difficult to determine the exact size of a community in relationship to medical practice. However, for purposes of uniformity and record keeping, the county was the unit of choice. A sheet was prepared for each county of the United States giving specific information that will be of practical

assistance to the discharged medical officer in making his selection of a fitting location.

Inquiries concerning placement or suitable locations in which to practice will be referred to the interested state medical societies. It is contemplated that an individual reply will be sent by the Bureau to all medical officers requesting assistance in the selection of a location, telling the inquirer that definite information can best be obtained from the secretary of the state medical society. A copy of the summary sheet for the county also will be enclosed so as to furnish an outline of the pertinent facts concerning the community under consideration. It is hoped that the state medical societies will take over at this stage and correspond directly with the men.

This new and useful type of service to returning medical officers is a very real contribution. To assist returning veterans in their choice of a location is a new service that medical societies can and should give. Repeatedly it is said that medicine "can keep its own house in order and manage its own affairs."

We, the physicians of West Virginia, have a real challenge to prove our ability to create a shareable life and provide for our own returning medical veterans. We must assist them in obtaining refresher courses and postgraduate training when desired, in reopening their offices and reestablishing their former practices, in returning to their former industrial assignments, and in reestablishing hospital connections, etc. We must insist that former patients return to them for future treatment.

A famous internist once said that when he died he wanted placed upon his tombstone the epitaph, "I fed typhoid patients." Each and every member of this association should be able to say, with truthfulness and honesty, "I returned to my medical veteran brother that which he left in my trust."

MINERAL WATER TREATMENT

It is interesting to speculate whether the proper attention will be given to sojourning at watering places in the restoration of our injured soldier. We in civilian life have never given the spas their rightful place in our society. Unquestionably, mineral springs offer exceptional advantages for rehabilitation. Personality and situation neurosis, both from military life and civilian life, respond favorably to the mineral water treatment, accompanied by physical therapy, regimented diet, and recreation. We ought to be giving some thought to the use of such institutions.—J. F. in Ohio State Medical Journal.

THE SOMATIC ASPECT OF EMOTIONAL REACTIONS

By F. R. STERN, M. D., Nashville, Tennessee.

In whatever way we approach the problem of emotions, we are always confronted with physical phenomena, or as Kraines [1] has termed it, emotions are an integral part of the bodily processes: lacrimation or laughing, salivation or vomiting, sweating or piloerection, panting or trembling, vasoconstriction or vasodilatation, inhibition or hyperactivity of muscular movements, acceleration or slowing down of the heart action, involuntary evacuation of bladder and bowels or delayed emptying time, excessive gastric secretion, and many additional reactions. These physical phenomena are so common that, *pars pro toto*, some are used as denominations for the entire emotional experience. "A person cries, laughs, trembles, blushes", does not designate the somatic side only but the totality of the emotional contents.

Undoubtedly somatic emotional "expressions", being of visceral efferent character, are conveyed by the diencephalon, particularly the hypothalamus and the autonomic nervous system with primary or secondary endocrine interplay. The question arose recently whether or not the so-called emotional expressions are identical with the "emotional experience". Attention has been drawn to the fact that stimulation of the hypothalamus in decorticate animals would induce sham rage [2], that pressure on the hypothalamus during operation would produce manic excitement,[3] that patients with hypothalamic lesions would laugh in a "meaningless fashion",[4] and several other clinical observations.[5] Apparently the difference in opinions is due to the incompatability of this question with the problem. The emotional expression of rage in a bull sighting a red cloth is not comparable in psychological evaluation with the emotional expression of rage in a jealous person. Physiologically, however, there is a difference only of phylogenetic degrees, the former instance being on about the same biological level as the emotional expression evoked by experimental stimulation of the human hypothalamus. There are in man obviously "reflectoric" emotional responses, autonomic reactions of the "old brain", with exclusion of cerebral cortical influence. When the crying child after rhythmic movements of the body smiles or becomes contented after inducing sucking movements, when the adult laughs after tickling or startles after unexpected stimuli,[6] we

apparently deal with direct diencephalic emotional responses.[7]

Thus, it seems, there are two emotional reaction types: (1) A subcortical diencephalic one, in which the receptory stimuli (essentially exteroceptory, proprioceptory and visceroceptory) synapse with visceral effectors [8 9 10 2]. This is the type that Ingham [11] characterized as the emotional component in the instinctive action or, as Cannon [7] in his masterly fashion has described it: "We have emotional seizures; we laugh, weep, rage 'uncontrollably', something 'surges up in us' and our actions are no longer our own. These common by-words are explicable only in terms of a sudden and powerful domination of the body forces by subcortical neurons." (2) A cortical reaction type in which the receptory stimuli in the diencephalon synapse with upper neurons ending in different parts of the cerebral cortex [8 9 13], and are conveyed from there through association fibers to selective somatic and visceral effectors. This separation is, of course, theoretical. In practical clinical experience, there are various transitions. Guttmann and Herman [14] saw a case of suprasellar neoplasm of the diencephalon with manic episodes at the ages of 27 and 49, with, however, the picture of a fairly well adjusted personality in the intervals between the attacks. Kennedy [13] stresses that: "not only is manic depressive psychosis found in frequent association with hypophysical and hypothalamic abnormalities but various behavior problems, lying, stealing, arson and temper tantrums have occurred in young people under my observation, accompanied by functional hypothalamic 'organic' signs more frequently than they do in persons physically normal." These are just a few among numerous clinical instances in the literature.

The transitional conditions are due mainly to the extent to which the connections between the diencephalon and the cerebral cortex are maintained or affected. Connections essential for the relation of emotional experience and emotional expression may be the following: (a) through posterolateral nucleus of the thalamus via intrathalamic fibers with posteroventral nucleus and ascending fibers to areas 5 and 7 (facial association area), (b) projections from dorsomedical nucleus of the thalamus to areas 9-10--11-12 (frontal association area), (c) connections from gyrus cinguli by way of anterior thalamic nuclei to hypothalamus, (d) connections from hippocampus and fornix to mammillary bodies and tuber cinereun. (The role of the olfactory system and its conections with the hypothalamus in relation to the problem of emotions has been stressed by Foster Kennedy,[13] Grinker [9] and Paper,[15]) (e) the supraopticohypophysial and tuberohypophysial tracts which in all probability give the hypothalamus and through it more essential rostral centers a directing influence on the endocrine system.

A good clinical, and simultaneously experimental, demonstration that the above statements are not merely hypothetical is seen in the observations following prefrontal lobotomy, the procedure inaugurated by Moniz.[16] As is generally acknowledged prefrontal lobotomy has its most beneficial effects in depressive reactions such as reactive depression, involutional melancholia, affective psychoses, anxiety in obsessive neuroses, etc. Freeman and Watts [17] have had the most extensive experience and their results and explanations are generally accepted. The interruption of the anterior thalamic radiation between the prefrontal area and the nucleus dorsalis medialis of the thalamus causes relief from anxiety and depression, "cutting off the affective component of the ideas concerned with the self", "reducing the subjective emotional reactions of the patient", "divorce between ideation and affect as far as self is concerned", "bleaches affect attached to ego". Strecker and associates [18] had a similar experience. Kisker [19] describes the result of the operation as "increase or decrease of emotional responsiveness in accord with the preoperative or prepsychotic personality residuals". Bennet and his coworkers [20] emphasize the breaking of the link between emotion and imagination in the operation. Magnus [21] and Peterson [22] stress the relief from anxiety, worry and tension as the most striking postoperative phenomenon.

The importance of these observations in prefrontal lobotomy cannot be over estimated. For the first time in the history of psychiatry, there is clinical and experimental evidence that a connection between two well defined areas, a cortical and a diencephalic one, are responsible for the interdependence of two psychic functions, ideation and emotion (as they refer to the ego). For the first time we gain some understanding that the entity of psychic dynamics and of an actual psychic situation are dependent on a certain anatomical and physiological coherence and that the anatomical separation is followed by emotional dissociation. It is, of course, much too early to draw any general conclusions from the psychological evaluation of prefrontal lobotomy; but the impression prevails that the anatomo-

physiological representations for emotional dynamics and those for ideational elaboration and association are located in the diencephalon and parts of the cerebral cortex, respectively. Under certain physiological and pathological conditions, the caudal area may react independently in the form of a reflex circuit, but essentially the coherence between caudal and rostral areas is so close that the actual psychic situation necessarily contains both ideational and emotional constituents.

When we try to elucidate the problem from other angles of brain pathology, we find that the extensive literature on this subject shows frequent contradictions. So we restrict ourselves to just a few remarks. The tendency to childish facetiousness (Oppenheim), pointed to in a certain percentage of frontal lobe tumors (recently confirmed electroencephalogrophically by Strauss,[23]) may be looked upon as a dissociative emotional symptom similar to that in prefrontal lobotomy.[24] On the other hand, the observations of Schilder [25] who saw destructive tendencies in strio-pallidar-nigra lesions resemble the primitive diencephalic emotional pattern. In the same category may be listed the finding of jocularity in cases of tumor of the left thalamus and irritability or ill humor among cases of tumor of both caudate and both lenticular nuclei as described by Gibbs.[26] On the whole, however, the conditions in brain lesions are too complicated to permit more than superficial views. In regard to tumors, it appears that Kinnier Wilson's [27] statement is generally accepted, namely, that neoplasms near or within the ventricular system are likely to induce some kind of emotional impairment.

The physiological side of the problem is rendered even more difficult by the fact that metabolic and endocrine findings must agree. The carbohydrate metabolism, the oxygen consumption, the acetylcholine problem, and that of the electrolytes appear of particular import. In the endocrine sphere the pituitary, the thyroid, the adrenals and the gonads seem to exert essential influence on emotional reactions. These factors are only fragments in the whole of homeostatic alterations which may lead to a breach in the emotional balance. Their interrelation is so close that it is almost impossible to describe one part alone as the neglect of simultaneous reference to the totality of all parts gives a wrong picture of the physiological processes.

"The brain unlike other organs oxidizes for all practical purposes only carbohydrate.[28]" As the brain is unable to store much glycogen, it is dependent on the circulating blood sugar. It is, therefore, evident that hyperglycemia is rarely accompanied by abnormal emotional responses. We know, for instances, that diabetes in schizophrenia is unusual [29]. Menninger [30] described emotional reactions in diabetes but states that both diseases "run a parallel course". Bonhoeffer [31] found circular depressive reactions in hyperglycemia rising and falling with the blood sugar but emphasizes that the psychosis is usually due to the underlying neuropathy or arteriosclerosis. Thus, there is not much proof that hyperglycemia influences emotional behavior.

Observations in hypoglycemia on the other hand, are, as is to be expected, very frequently connected with a disturbance of the emotional equilibrium. Umber [32] has stressed the fact that hypoglycemic attacks often begin with impudent, mischevious and obstinate behavior in otherwise well-behaved children. Cases have been observed [33] suffering from tension and depression with normal fasting blood sugar values but with pronounced hypoglycemia four to five hours after food ingestion. It was assumed that these cases exhibited an "impairment of the 'braking' mechanism" which releases stored glycogen to balance the blood sugar level. Hypoglycemia in psychoneurotics is believed to occur on the basis of continued vagal stimulation [34]. Low fasting blood sugar values are often found in acute hebephrenic and catatonic schizophrenic patients who show pronounced emotional dissociation. Evidence has been introduced that, in emotional excitement, schizophrenic individuals secrete more insulin than normal persons [35].

The oxygen content of the brain is closely related to the carbohydrate metabolism. The breakdown of carbohydrate in the cerebral tissue is exclusively dependent on oxidation. The great physiological experiment of insulin shock treatment in schizophrenia has proved that insulin impairs the oxygen consumption of the brain [36]. Thus, in the initial so-called cortical phase of insulin hypoglycemia,[37] we see approximately the same emotional disturbances which have been observed in diminished oxygen tension in flyers, paticularly unmotivated changes of mood [38]. That this similarity is not a mere analogy can be concluded from the fact that in very high altitudes (18,000 to 24,000 feet) with considerably more decrease of oxygen content of the air the flyer's condition would resemble very closely that of an insulin shock patient in the sub-

corticodiencephalic phase, with motor restlessness, muscular twitchings followed by local and then generalized convulsive phenomena.

The role of acetylcholine in the human brain as yet has not been entirely clarified. Among many others, Nachmansohn [39] and his associates in Fulton's laboratory have made clear, however, that the acetylcholine metabolism is the determining factor in the propagation of nerve impulses. L. Rice and E. A. Evans from the biochemistry department of the University of Chicago have emphasized the relationship between the action of insulin and the oxidation of pyruvic acid, an intermediate substance in the carbohydrate metabolism. Pyruvic acid, on the other hand, is also essential for the formation of acetylcholine. Thus, we have a relation between carbohydrate utilization, oxygen consumption and the conduction of electrical potentials in the central nervous system. Acetylcholine can be identified in the blood not only during bodily reactions but also during emotional states of fright, fear, and possibly also of rage [40]. Kennedy [41] has pointed out that, since acetylcholine is more abundant in the basal ganglia than in the cortex, the fluctuations in the sympathetic-parasympathetic drives, characterizing many neuroses, and also psychoses such as manic depressive conditions, might depend for their production on altered chemical conditions in the basal ganglia and diencephalon.

The significance of the electrolytes for the emotional equilibrium has been recognized but the clinical observations are scattered. It is well known that the irritability of the nervous system depends to a consdierable degree on the balance between potassium, calcium and sodium. Ionic potassium stimulates the sympathetic centers. Potassium is also associated with the nitrogen metabolism. Depressed patients may show nitrogen retention [42]. The work of Gjessing on the nitrogen metabolism in catatonic reactions gives evidence of the decreased nitrogen elimination in catatonic excitement and stupor. French authors found increase of total nitrogen in the urine in emotional instability. Jankowska [43] particularly states that "the changes in the urine are due to functional disturbances in the brain which, in normal subjects, lead to somatic expressions of emotions while, in the presence of the same changes, schizophrenic individuals experience emotions even if they do not betray them". As to calcium, we know that calcium deficiency increases the excitability of the sympatheticoadrenal centers and decreases the reactivity of the vagoinsulin mechanism. Physical and emotional activity influence the amount of calcium that the body may retain and emotional disturbances affect the elimination rate of both the kidneys and the bowels [44]. Finally, it has been found that calcium concentration affects the acetylcholine action in the central nervous system.

That all these metabolic processes are closely connected with the endocrine system has been under discussion for a long time. The James-Lange theory even went so far as to imply that the emotions are caused altogether by endocrine glands. It is a matter of fact that functional impairments of the ductless glands are accompanied by emotional disturbances: hyperthyroidism by anxiety and agitated depression, dysfunction of the gonads or the pituitary gland by irritability and anxiety, hypoadrenemia by indifference and lassitude, etc [45]. On the other hand, we observe many disturbances of the emotional balance with no primary pathology of the endocrine glands. The best approach to the problem is to assume that the hypothalamus as the main diencephalic effector plays, in combination with its projections to parts of the pituitary, a piloting role on the endocrine system in emotional reactions. Therefore, it is theoretically well substantiated to distinguish between two main reaction types: (1) the adrenergic or sympathetico-adrenal response which is essentially an emergency mechanism (fright and flight) with activation of sugar stored in the liver and stimulation of respiration to supply oxygen and (2) the cholinergic or parasympathetico-insulin response, characteristic in tension, preoccupation and emotional rigidity, with high sugar tolerance and hyperacidity. The relation of the adrenergic system to the thyroid is seen in the fact that thyroid extract aggravates sympatheticomimesis and counteracts parasympatheticomimesis. The gonads, too, have apparently a sympathetic affinity as "in the absence of the thyroid or adrenals reproductive activities are affected [46]."

This survey would be incomplete without a glance at the still ambiguous part played by the vitamins. There seems to be little doubt that thiamine is related to the carbohydrate metabolism and to the oxygenation rate of the brain [47]. The emotional imbalance in the psychotic forms of alcoholism is in all probability dependent on thiamine deficiency. The essential role of nicotinic acid in pellagrous psychoses is well known. Many of them resemble schizophrenic reactions and there are other types with predominantly emotional symptoms such as excitement, mania and depression [48]. It has been

pointed out that nicotinic acid deficiency is more frequent in predisposed individuals displaying an increased functional tonus of thyroid and pancreas and a deficient function of the anterior pituitary and the adrenals [49]. Lack of vitamin C, which also influences the carbohydrate metabolism in the liver,[50] likewise affects emotional responses. Avitaminosis irritability, suspiciousness and querulousness have been observed [51].

To complete the somatic syndrome related to the emotions, we could mention findings of changes in the acid base balance, the basal metabolism, the number of leukocytes, the serum albumin and serum globuline, the fluctuation of the blood pressure, the variations of the sleep mechanism, the water metabolism and many other interesting problems. They are, however, either so closely connected with the described observations that they can be inferred from this relationship or there is not sufficient experience available to vindicate a short exposition.

The presentation of the somatic aspect of emotional reactions obviously displays a systematic trait: there is a consistent coherence of cortical, diencephalic, autonomic, endocrine, metabolic, vitaminic and electrolytic dynamics .

For practical purposes, this knowledge is the more essential as psychiatry in general is inclined to organic leanings, encouraged thereto by the recent therapeutic progress (shock treatment and prefrontal lobotomy) and discouraged, to some extent, by the stagnation of descriptive psychiatry and orthodox psychoanalysis. The definition of special mental functions, however, is always artificial. At any moment we are confronted with the totality of a dynamic psychic situation. There are no isolated emotions and certainly no independent physical part of emotional reactions. However, due to the static categories determining the mechanistic thinking of natural science, we are unable to deal, scientifically and practically, with an organic entity. We are bound to dissect it artificially, but we should not forget that the separation of the indivisible whole into quantities, qualities and symptoms is justified only as a working hypothesis. In this respect, psychiatry in general and this consideration in particular are in no way different from other branches or problems of medicine.

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CHEMOTHERAPY AND PNEUMONIA

Nothwithstanding the fact that the sulfonamide drugs are a development of the past decade, the results which we now expect from them have created a feeling of complacency which has drawn a veil of obscurity over the memories of the days when the mortality from many of the diseases, which are now more perfectly controlled, was discouraging to the generation which had to combat them. A feeling of security has been acquired because they are available and it is sometimes difficult to realize that there was a time when this was not true. The amazing results which have followed their use in the treatment of the pneumonias, for example, make the experiences of the 1918 influenza pandemic sound like the vague references of medical historians to the plagues of remote antiquity whose real identity will probably always remain a matter of conjecture.

The younger physicians of the past 10 years will soon regard the days when chemotherapy was something to be developed as being only of historical interest and will deplore their failures just as those who have gone before them always did.—International Medical Digest.

THE MANAGEMENT OF FOREIGN BODIES IN THE AIR AND FOOD PASSAGES *

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This relatively infrequent, but none the less serious mishap, is not generally accorded the pathologic consideration as are other problems in medicine. A diagnosis substantiated by fundamental scientific facts is essential if these problems are to be dealt with effectively. In the topic under discussion an exact diagnosis, however, may sometimes be difficult or impossible to obtain. It is these cases which are prone to be neglected and, for lack of a diagnosis, hopeful waiting is entertained which too often leads to disappointing results when treatment is finally undertaken.

For example, the importance of an early chest x-ray is too often overlooked, following the definite history of a recently aspirated, nonopaque, foreign body. Some practitioners have erroneously concluded that since a shadow will not be produced by the object, x-ray will not help. Due to the expansive action of the bronchi on inspiration air may become trapped and the very earliest changes may be emphysema of the lung. Inspiratory and expiratory films may be necessary in some types of early bronchial obstruction. The inspiratory picture may show only mild emphysema of the uninvolved lung, but the expiratory picture will show a mediastinal shift to the involved side with an associated fixed diaphragm and definite narrowing of the intercostal spaces on that side. Swelling of the bronchial wall about the foreign body gradually causes complete obstruction, the air distal to the occlusion diffuses out and collapse occurs. A drowned lung results if the obstruction is not removed. It becomes obvious then that very definite x-ray changes are noted within an hour or two regardless of whether or not the obstructing substance is opaque to x-ray. Proper treatment in many cases has been hopelessly delayed by overlooking this well established fact. Here certainly poor medical advice is worse than no advice at all.

FOREIGN BODY IN THE AIR PASSAGE

Aspiration of a foreign body of any character in the tracheobronchial system will practically always cause one or more violent attacks of coughing immediately following the mishap. Unfortunately this soon gives way to the so-called "quiescent" stage. The inflamed and swollen bronchial mucosa anchors or stabilizes the object so that it is not free to move about, touching various mucosal areas, thus producing coughing attacks. It is during this stage that previous anxieties are usually allayed and the assumption that it has been coughed out is hopefully entered into for a variable period.

Later, however, suspicions are again to be aroused by the third, or atelectatic stage. The common signs of a collapsed lobe, or entire lung, are usually quite evident to the most casual observer. In addition there is mediastinal shift to the involved side, high diaphragm below the involved lung, with emphysematous changes of the uninvolved lung (Fig. 1). Cough may still be a sign but is usually not as noticeable. Too often, dyspnea and cyanosis appear, making the bronchoscopic procedure of removal, to say the least, extremely hazardous.

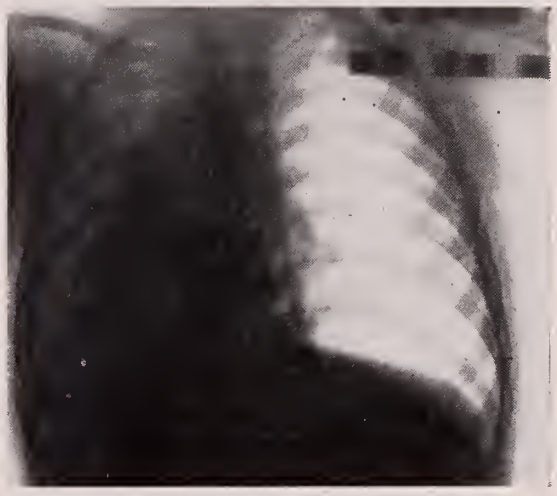

Fig. 1—Peanut in left bronchus. Child 2½ years old. Duration 9 days.

The third stage then gives way to the fourth, or necrotic stage, preceded by the watery or drowned lung with secondary infection. Bronchial abscess is a less serious complication and may be cured by bronchoscopic aspiration.

The presence of a tracheal foreign body is usually more difficult to establish by x-ray examination because atelectasis is slight and generalized over the entire pulmonic field. Here fluoroscopic examination usually reveals a limitation of diaphragmatic excursion, bilateral in character. Respiratory stridor is usually pronounced in this condition.

The opaque foreign body, particularly if it be

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metallic, may be tolerated for years by the lung and, other than attacks of coughing, pain, hemoptysis, etc., may be carried without atelectasis or sepsis. The common belief that the oil from a roasted peanut is highly toxic to the pulmonic system is not substantiated here. True, the adjacent mucosal walls are inflamed, but once the obstruction is removed the patient usually recovers rapidly without any ill after-effects (Fig. 2).

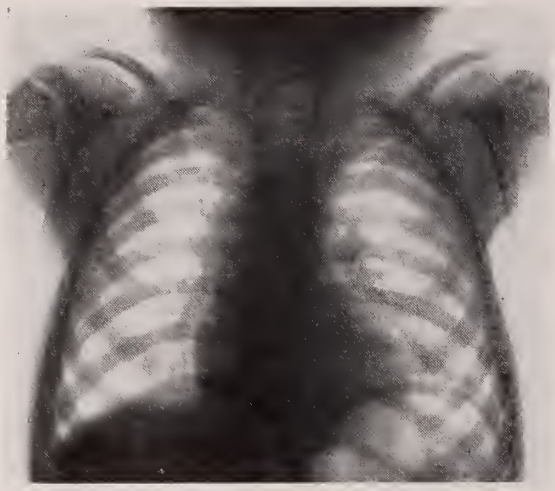

Fig. 2—Same as Fig. 1, two hours later, following removal of peanut by bronchoscopy. Note complete recovery from atelectasis.

Foreign bodies with active germinal centers are most difficult to remove when the pulmonic warmth and moisture has caused them to soften and swell. Two cases of this nature (beans) constitute my only fatalities in managing all types of foreign bodies in the air and food passages. My procedure now is first to do a tracheotomy and work with the bronchoscope through this opening since the bean has usually grown so large it will not repass through the glottis.

ESOPHAGEAL FOREIGN BODIES

Another misconception is that foreign bodies in the esophagus are not regarded as serious in nature. They should be removed without delay regardless of the hour of occurence. Failure to identify the presence of the object by x-ray calls for diagnostic esophagoscopy. Pressure of a sharp pointed object on the esophageal walls may result in laceration with infection or even perforation in a surprisingly short time (Fig. 3). Forcing solid foods, such as potatoes and bread, is not recommended and may be dangerous for the above reason. Removal of the body under direct vision is the only acceptable procedure and blind attempts, such as bouginage, should never be attempted by even the most experienced. Esophageal foreign bodies occur most frequently in elderly or edentulous adults in contradistinction to bronchial foreign bodies more often seen in young children. The natural teeth seem to have an important function in acting as "guards" to the entrance of the digestive tract. Due to absence of sensitivity, artificial dentures are more likely to allow objects to "get by" during the act of mastication.

Fig. 3—Open safety pin in esophagus of infant 5 months old. Removed by esophagoscopy.

DIFFERENTIAL DIAGNOSIS

Trivial as it may seem, an exact history should always be obtained in any foreign body case, if possible. A definite history is the most important point in cases of doubt. A child with his mouth filled with material while at play may suddenly occasion an inspiratory effort by losing his balance, or falling down, thus aspirating some of the objects. A violent coughing attack ensues and cyanosis, violent in character, may occur. The importance of such a positive history cannot be overemphasized as this alone is almost sufficient for diagnosis. Once past the glottis the patient is seldom able to remove the object by his own coughing efforts.

Failure to obtain x-rays by the physician assuming responsibility for the case may lead to court action.

Before attempting removal of an opaque foreign

body anteroposterior, lateral and oblique x-ray views should be obtained. These pictures will better acquaint one with the shape of the object. A flat object's broad surface will lie in the coronal plane if in the esophagus (Fig. 4), but if in the saggital plane, it is in the trachea. An esophageal foreign body may produce respiratory symptoms by tracheal compression and an erroneous diagnosis may be made (Fig. 5).

Fig. 4—Fifty-cent piece in esophagus of boy 4 years of age. Removed.

Diagnosis of esophageal foreign bodies may be impossible even by the most skillful use of x-ray methods. Barium should not be used without the consent of the esophagoscopist. Barium in the esophagus may delay esophagoscopy for several hours and may hide a carcinoma with beginning esophageal obstruction. The possibility of esophageal neoplasm must be always considered with the appearance of any obstructive symptom occurring in the aged.

Salivation, dysphagia, and pain are the usual esophageal symptoms. In a complete obstruction the salivation is drooling in type, the patient being unable to swallow his saliva which continuously accumulates in the mouth. Saliva in one of the pyriform sinuses as seen with the laryngeal mirror indicates partial esophageal obstruction. These pouches are located laterally in the hypopharynx at the beginning of the esophagus. Objects sometimes lodge in one or the other of these areas where they may be easily removed without further ado. The practitioner will do well to inspect this area before contemplating reference of the case.

MANAGEMENT

It is generally conceded that objects that will pass the upper esophageal constriction located at the beginning of the esophagus and formed for the most part by the cricopharyngeal muscle will ordinarily pass through the entire gastrointestinal tract. The three other constricted areas of the organ are produced by the aorta, the crossing of the left main bronchus, and the diaphragmatic opening. Sharp pointed bodies may lodge in other areas, however. When the object has reached the stomach its progress through the intestinal tract should be watched daily by use of x-ray or fluoroscopy. A stoppage, with symptoms, indicates surgical consideration.

Fig. 5—Beef bone in esophagus of adult female causing tracheal compression. Patient was dyspneaic. Removed by esophagoscopy. Note encroachment on air column of trachea.

In dealing with bronchial or tracheal foreign bodies the natural inclination to suspend the patient by the heels in the hope of dislodging it is dangerous.

It may be dislodged between the vocal cords producing laryngeal spasm and immediate asphyxia (Fig. 6).

Fig. 6—Brad between vocal chords. Boy aged 3½ years. Quick removal by laryngoscopy and recovery. Asphyxiation was almost complete.

If asphyxia threatens because of a laryngeal foreign body, immediate tracheotomy should be done. However, if the foreign body is located lower, as is usually the case, it will lie below the tracheal incision and tracheotomy is, of course, contraindicated.

Trained personnel, with proper equipment, is essential for successful removal of foreign bodies.

SUMMARY AND CONCLUSIONS

There are four definite clinical stages produced by a foreign body causing bronchial obstruction. They are:

1. Excitation
2. Quiescence
3. Atelectatic
4. Necrotic

These stages definitely follow each other in the above order and the clinical picture can be terminated at whichever stage removal of the foreign body is effected. The first two stages are most suitable for bronchoscopic treatment and an appeal is made through this paper for early diagnosis in cases of this nature.

TECHNIQUE FOR CIRCUMCISION*

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In the Navy there are many circumcisions performed. In fact it is probably the most frequent surgical procedure. There are, however, some parts of the technique that probably can be improved. One of the objections to the procedure is the discomfort associated with it. As a result of having almost no other surgical procedures to do for over a year, this technique has been under minute study. It has been developed into a method which finds favor with the patients and one which also gives satisfactory results. Herein is described in detail the technique with notes as to why these measures were adopted.

The patient is asked to come to the sick bay early in the morning on the day of operation. An hour and a half before the operation is scheduled to take place he is given morphine sulfate gr. 1/6, scopolamine hydrobromide gr. 1/150, and sodium pentobarbital gr.lss. If at the expiration of an hour the patient is still alert and apprehensive, the sodium pentobarbital gr. 1ss is repeated. Preparation consists of thorough washing with soap and water for eight to ten minutes. Ether, alcohol, and paints are eliminated as oftentimes they cause discomfort out of proportion to their effectiveness.

Anesthesia consists of 1 per cent procaine with two drops of 1/1000 adrenalin to each ounce of solution. If the adrenalin is not added, anesthesia will wear off before the operation is completed. Two ounces of the anesthetic solution is all that has been found to be necessary. Before each initial injection the patient is told that it will hurt. The solution is introduced in a subdermic ring, (too thin for endermic infiltration), completely encircling the penis about 1/5 cm. behind the ridge of the corona. The foreskin is then peeled back. A second ring of infiltration is made under the mucous membrane just behind the corona. One should at this point be especially careful to see that the frenulum and its adjacent area are well infiltrated.

When this is completed, one waits about two minutes for anesthesia to become fully effective after which the efficacy of anesthesia is tested by needle prick. The first step of the operative procedure is to cut down the frenulum or commonly-

*This article has been released for publication by the Division of Publications of the Bureau of Medicine and Surgery of the U. S. Navy. The opinions and views set forth are those of the writer and are not to be considered as reflecting the policies of the Navy Department, or the Naval service at large.

called "G" string. This is most important as one frequently finds tears in this region after intercourse. The cogent reason for this plastic repair is the frequency with which one sees men infected in this region both with primary chancres and more especially chancroids. There are two factors behind this: (1) tearing, which breaks the continuity of the skin, thus allowing the pathogens entrance into the body and (2) the irregularity of the skin with resultant pockets, which do not permit effective prophylaxis, especially with soap and water. After the "G" string has been cut, the edges of the diamond shaped defect in the mucous membrane are pulled together with fine sutures of No. 000 dermal. In the early days of this technique no closure was made. This method produced good results immediately after operation but healing was delayed. As a result of the ensuing infection, much scar tissue was then laid down. Secondary contraction deformity followed to negate somewhat the effort. Although this repair has not been an accepted part of the technique in the past, I feel that it is of the utmost importance. Therefore, plastic repair of the frenulum should be incorporated as a routine procedure whenever necessary.

The regular circumcision is then performed. Two hemostats are placed on the edge of the foreskin. The clamps are shown to the patient to gain his confidence. These clamps are placed on the foreskin as it lies in a natural position. If they are not so placed, then there will be a discrepancy in length between the skin and the mucous membrane. As an aid to cutting, using gentian violet, a line is drawn on the skin 1.5 cm. anterior to and parallel with the coronal ridge. A dorsal slit is carried to a point 1.5 cm. anterior to the retroglandular sulcus. From this point a cut at the same distance, 1.5 cm., and parallel with the coronal ridge is made about the foreskin with scissors. All bleeding points are picked up and tied with No. 00 plain catgut. A cuff, 2 or 3 mm. in width, is then trimmed from the mucous membrane completely around the penis. The purpose of this is to make the skin a bit longer than the mucous membrane so that it will turn over at the edge. Thus the more sensitive mucous membrane is not left exposed to rubbing.

When the cutting, trimming, and hemostasis are completed, the suturing begins. Interrupted, fine (No. 00 to No. 0000) nonabsorbable sutures are used. Multilithic nylon is preferable. Since this tissue swells considerably, it is very important that the sutures be tied very loosely. The edges, both of the mucous membranes and of the skin, are turned outward before the sutures are placed. This is to prevent any inversion. Smooth forceps are used as tooth forceps would but make holes which would exist as portals of entrance for infection.

First, three holding sutures are placed so as to divide the circumference into equal parts. The ends of these sutures are left long and held by hemostats. The skin and mucous membranes of each segment are then approximated. The closing sutures, placed closely together, are but 2 or 3 mm. from the edges. Finally the holding sutures are cut; the foreskin is retracted under tension as it would be in an erection. Any gaps then present are closed.

The primary dressing is powdered sulfanilamide and gauze on which has been placed a thick layer of a 1 per cent ointment of abutylocinchonic acid diethylenediamide hydrochloride (Nupercaine-Ciba). The period of discomfort which comes in the interval between the last effect of the local and the first effect of the ointment is controlled by refrigeration anesthesia. The penis, enclosed in its ointment dressing is packed in ice for a period of four hours after operation. Postoperative erections are controlled to a degree with phenobarbital gr. ½ and sodium bromide gr. 10 three times a day for five days.

Patients are kept in bed for twenty-four hours and when possible for forty-eight hours. This period of bed rest eliminates the great amount of edema which otherwise takes place, especially about the frenulum. The ointment dressings are utilized for five or six days. In no case has there been any noticeable interference with healing. On the seventh postoperative day the stitches are removed. It is by a careful study of the line of incision and stitches that one can ascertain if the sutures have been properly placed and if they are under proper tension. If so, primary healing will take place.

SUMMARY

1. A technique for circumcision based on results and comfort for the patient is presented.

2. It is advocated that the frenulum or "G" string be corrected plastically.

3. Complete anesthesia and analgesia are obtained by preanesthetic medication, psychoanesthesia, local anesthesia, refrigeration anesthesia, and finally by the use of an anesthetic ointment.

THE MANAGEMENT OF RHEUMATOID ARTHRITIS *

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Rheumatic disorders constitute the most frequently occurring chronic ailment. With the exception of nervous and mental disorders, "rheumatism" leads the various chronic and incapacitating diseases in the duration of disability and in the amount of invalidism. It has twice the prevalence of heart disease, seven times that of cancer, and about ten times that of tuberculosis [1]. Data presented by the survey conducted by the United States Department of Public Health reveal that this group of diseases in this country afflicts 6,850,000 persons, or approximately one out of every nineteen persons in the entire population yearly. Over 3,000,000 people in the United States are crippled in various degrees by chronic arthritis.

Whereas osteoarthritis and fibrositis are much more common in office and clinical practice, nevertheless, of all the various disorders which constitute the "rheumatic group" rheumatoid arthritis produces a greater amount of crippling and necessity for hospitalization. Rheumatoid arthritis also presents the most difficult and serious problems from the standpoint of etiology, chronicity and treatment. Unfortunately, this fact has given rise to a defeatist attitude in the minds of practitioners toward "rheumatism" in general. This pessimism is unwarranted because the results of proper treatment, even in rheumatoid arthritis, justify a more hopeful outlook. The American Committee for the Control of Rheumatism [2] designated arthritis as a systemic disease with joint manifestations. The exact etiology of the disease remains unestablished. Since this paper is to deal with management of rheumatoid arthritis, the various factors thought to play a part as causative agents are too numerous to be enumerated. It is obvious, however, that any disease with an unexplained etiology must of necessity have a not too empirical form of treatment. No single specific method of treatment has as yet been established. While many forms of treatment are to a great extent merely palliative, they should not be prescribed half-heartedly.

The therapeutic approach in rheumatoid arthritis is primarily a medical problem because it represents a systemic ailment. However, the orthopedic problem of preventing deformity is as essential as the medical problem of arresting the disease. The medical treatment is confused by the variety of remedies advocated and the conflict of opinion as to their value. The following outline of treatment has been suggested by Steinbrocker [1].

BASIC MEASURES OF ESTABLISHED VALUE

1. Rest: Rest in bed obviously is essential throughout the acute and subacute phases of arthritis, systemic rest on every hand being considered the most useful single basic factor in treating this disease. Complete rest in bed should be continued until all clinical and laboratory signs of activity have subsided, even in long-standing chronic cases. When the sedimentation rate of the red blood cells is elevated, particularly if any clinical signs of joint involvement are present, movement and weight bearing on involved joints should be limited. In securing local rest for joints, splints of various sorts often are very helpful since they relieve pain and relax spastic muscles, aid in preventing or overcoming contractures, and hasten the absorption of edema and effusion. They may be worn at night and for a great part of the day, particularly after passive exercise. The affected joints should be placed in the best position in case some limitation of motion results. Some form of exercise should be taken each day to prevent limitation of motion. As improvement occurs, the patient may be allowed up provided the joints are not traumatized by jarring or by excessive motion. Light work may be considered as occupational therapy. Emotional disturbance and worry should be eliminated as far as possible. The patient must have some insight into the problem at hand but should not be allowed to take a pessimistic attitude. He must be told that he cannot expect rapid improvement and that weeks may pass before any change may be noted. He must be informed that flare-ups may be only transient and are not necessarily of serious significance.

2. Analgesics: Analgesics for pain and discomfort consist chiefly of the salicylates. If gastrointestinal symptoms are brought on by the large doses often required, the drug should be given rectally. Often codeine is needed to alleviate pain. Because of the chronicity of the disease the stronger opiates should not be administered. The justification for the use of demerol is still not established. It is now thought that it may be a habit-forming drug. Counterirritation from liniments affords considerable relief from joint discomfort. In acute

* Presented before the Logan County Medical Society, Logan, West Virginia, September 13, 1944.

cases the stronger liniments are indicated; however, a sensitive skin must be watched for. Wool or flannel wrapped about the joints after the application of the liniment often affords more relief.

3. Constitutional Treatment: When anemia exists, and this is a common finding, blood transfusions may be of extreme value. Several, each about one week apart, often initiate improvement and frequently until this is done there may be little change. For ordinary anemia ferrous sulfate is usually adequate. Liver extract may be given intramusculary in addition. Sometimes the anemia does not improve, however, until there is improvement of the rheumatoid process. Spackman and his associates [3] report x-ray study of the gastro-intestinal tract of 400 patients with arthritis and 100 control patients. Among arthritic patients deviation from normal structure and function were encountered in the stomach, duodenum, and small intestine in from 15 to 25 per cent of the cases. Some changes were found in the gallbladder. The most characteristic findings were in the colon where 80 per cent showed ptosis, dilation or atony. The severity of these changes paralleled the severity of the arthritis and improved as the disease improved. The x-ray changes were somewhat like those seen in vitamin B deficiency. Whether or not these changes are the cause or the consequence of arthritis could not be determined. However, they are significant in so far as therapeutic consideration must be given the gastrointestinal tract. Edstrom [4] reports achylia in 18.5 per cent and some phase of decreased gastric secretion in as much as 30 per cent of the patients with rheumatoid arthritis. For this reason dilute hydrochloric acid may be required. Constipation should be corrected, though frequent purging should be avoided. One of the mucilaginous laxatives is usually adequate. Mineral oil should be avoided because it may interefere with the absorption of the oil-soluble vitamins. A saline cathartic not oftener than each week should be prescribed.

Since the general nutrition in this disease is poor, vitamins in large amounts are commonly prescribed. The addition of vitamins fulfill the increased requirements of the body as in any other infectious and systemic disease but in the absence of specific vitamin deficiency large doses are not necessary. Massive doses of vitamin D have been recommended in both medical literature and popular periodicals, this form of treatment having been used since 1935. Massive doses of vitamin D is not without its toxic effect,[5] however, early signs of toxicity being sweet-taste nausea, vomiting, polyuria, polydipsia and occasionally headache. If these signs are ignored, sufficient renal damage may occur to be significant. The concensus among students of this disease is that there is little proof of beneficial effect of this form of therapy, very conflicting reports existing as to the value of large doses of vitamin D [6 7 8]. Flare-ups occur during the administration of the vitamin, and most observers report no objective improvement, no drop of the sedimentation rate. It must be said that vitamin D is certainly not a specific remedy for rheumatoid arthritis, but in some cases improvement of symptoms is present during the time it is given. Its use alone without measures of proven value is not justified. Vitamin D must be considered only as a supplemental form of therapy and its toxic effect must not be overlooked. The recommended dose is 300,000 units daily. Endocrine disturbances play no known part in this disease except to complicate some cases. Menopausal symptoms should be alleviated with gland therapy as when complicating any other disease.

4. Diet: A well balanced diet with a generous amount of fresh fruits and vegetables is required. As a rule these patients are underweight and poorly nourished and require a high vitamin, high caloric diet of about 3,000 to 4,000 calories daily. Intermediate feedings are usually needed to obtain this number of calories. The appetite often must be stimulated by tonics, wines or even small doses of insulin before meals. It has been observed that patients with rheumatoid arthritis long have been users of concentrated carbohydrates in their diet. What part this may play in predisposing them to this disease is indeed questionable. However, Pemberton [9] believes a high carbohydrate diet may play a part in producing some of the edema seen in this disease. He recommended that the carbohydrate of these patients' diet not be too high.

5. Physical Therapy: Heat is an indispensable aid in the treatment of arthritis. Local applications of heat in any form provides temporary comfort. Wet dressings in acute cases are usually more soothing. Dry heat is more easily used in the form of an electric baker or an electric light cradle. Baking should be given in half hour to one hour sessions twice daily. Diathermy is similarly administered and is only palliative. Ultraviolet radiation with full body exposure is merely a valuable aid in general tonic therapy. Fever therapy provides transient relief of symptoms, especially after the acute state has passed. Generally, results of this procedure have been dis-

appointing. Since it is felt that fever need not be raised above 103 F. to give beneficial results, intravenous typhoid vaccine usually suffices. Histamine and mecholyl iontophoresis may be of value in treatment to produce temporary improvement; mild fever treatments produce the same results. X-ray therapy has been advocated, but due to conflicting reports its value is uncertain at present.

Massage is helpful if given gently and by a skilled physiotherapist. If used in acute cases it must be with utmost care.

6. Orthopedic Aids and Surgery: Orthopedic treatment in all stages of rheumatoid arthritis is often as important as medical treatment. This can bring about prevention and correction of malposition and ankylosis. It is not within the scope of this paper, however, to discuss this form of treatment. The help of an orthopedist should be obtained, especially when the disease is in the chronic state. Aspiration of effusions when causing discomfort, especially when they are in the larger joints, should be done. This may be repeated as recurrence indicates. Air injected through the same needle may prevent adhesions in large joints.

SUPPLEMENTARY MEASURES OF PROBABLE OR POSSIBLE VALUE

1. Gold Therapy: Gold salts have been used in the treatment of rheumatoid arthritis since 1927. At that time some observers felt that rheumatoid arthritis was of tuberculous origin. On this basis Forestier [10] began using chrysotherapy and reported improvement in 70 to 80 per cent of his patients. Others [11] verified his work and after its use in large series of patients reported apparent cure or great improvement occurring in as high as 80 per cent. It is the concensus at present that gold salts have given more benefit in individual cases than any other measure and remains the most promising remedy for rheumatoid arthritis. The greatest drawback of gold therapy is its toxic reactions seen in up to 50 per cent of the cases. There is promise of a more effective gold salt with a lowered toxicity. Colloidal gold preparations have been suggested but apparently are as inert as they are nontoxic. They are too poorly absorbed to exert any real therapeutic action. Gold salts are used in early or advanced active rheumatoid arthritis which has proved unresponsive to other measures. It is of no value in other types of arthritis, and is of most value in early cases. The patient should be informed of its dangers and give his consent to its use.

Contraindications to the use of gold salts are deficiency or disease of the liver or kidneys, colitis, skin eruptions, and blood dyscrasias. It is unwise to use it during pregnancy or in patients with severe hypertension, cardiac insufficiency, or uncontrolled diabetes. Since the drug is largely excreted through the skin, gastrointestinal tract, and kidneys, most of the toxic reactions involve these tissues. The skin disturbances, especially pruritis, appear early and most frequently. Erythematous and papular eruptions also develop early. The most characteristic skin reaction is an itchy erythematous or brawny eruption. Exfoliative dermatitis is one of the most serious skin manifestations but usually clears. Stomatitis is common. Nausea, vomiting and diarrhea indicates a gastrointestinal reaction. Jaundice due to hepatitis occurs. Aplastic anemia, granulocytopenia, and purpura have been reported. Toxic reactions occur after minute amounts as well as far along in the course of treatment. Starting with small amounts and gradually increasing the dose is the safest method.

It is felt that by using certain precautionary measures toxic reactions can be found before they become irreversible. A urinalysis and complete blood count should be done each week. Sedimentation rate done each month will give an index of response to treatment. The patient should be questioned about itching and when present it should be a signal for stopping treatment. Any rash should indicate the stopping of treatment. Usually a course of treatment consists of 20 weekly injections giving a total amount of about 1½ Gm. of the drug. A rest period of two months should follow. The patient should be kept under observation for delayed reactions during this time, and a complete laboratory study should precede resumption of treatment. At least two courses are administered and in some cases up to four may be required.

2. Removal of Foci of Infection: It is now realized that foci of infection are not the cause of rheumatoid arthritis. It is a good general practice, however, to remove definite foci of infection. Definitely diseased tonsils should be removed, and teeth with definite signs of infection should likewise be corrected. Other foci when definitely present should be corrected. These should not be corrected during the acute state, however. Promiscuous removal of "suspected foci" should be condemned, especially since removal of foci of infection cannot

be regarded as the removal of the cause of the disease. Only when their removal will improve the patient's general resistance is surgery indicated.

3. Foreign Protein: Typhoid vaccine given intravenously provides for fever and shock therapy. This treatment is used for younger patients. It should be given in subacute and chronic states. While this form of treatment may alleviate symptoms, particularly pain, the improvement may be only temporary. It is contraindicated in highly emotional individuals and in patients over fifty years of age or in those with marked debility, arteriosclerosis, hypertension, visceral disease, and in cardiac, renal, or pulmonary disorders. Doses are increased so as to maintain reactions from 102 to 104 F [12]. Ambulatory patients may safely receive this form of therapy provided they can get home in forty-five minutes. Intervals between doses vary with the severity of the reaction but should be from two to four days. A course consists of from eight to twelve treatments and several courses may be given with intervening rest periods of from three to six weeks. Milk and its derivatives as well as other nonspecific proteins are sometimes used. As a rule they do not provoke an adequate reaction to benefit.

4. Climate Therapy: The value of climate and spas lies chiefly in the change of environment and a systemic routine of rest. Climate alone is not in itself curative. The warm baths and massage at the various spas have their beneficial effect.

SUPPLEMENTARY MEASURES OF UNCERTAIN OR QUESTIONABLE VALUE

1. Vaccines and Filtrates: Since there is still disagreement as to the actual causative organism, even among those who accept an infectious etiology, it is seen that vaccines and filtrates are at best purely empirical therapy. The popularity of this method of treatment has waned considerably. Its chief value aparently lies in the maintenance of the patient's morale while constitutional and orthopedic measures are carried out. It also serves to keep the patient under regular observation and management.

2. Sulfonamides: Sulfonamides have shown no beneficial effect in this disease according to most observers.

3. Bee Venom: The use of bee venom is based upon the supposed immunity to rheumatoid arthritis among beekeepers. Its effectiveness has not been generally confirmed. The treatment is given by bee sting or by injection of the venom extract or by the use of a venom-containing salve.

4. Cobra Venom: Cobra venom is of value in many patients by alleviating pain. At times this effect is so great as to be gratifying. It has no other therapeutic value.

5. Penicillin: Penicillin has been tried and though the number of cases treated is relatively small no beneficial results have been reported.

CONCLUSIONS

No specific method has been developed for the treatment of rheumatoid arthritis. Medical and orthopedic management carefully carried out can, however, be extremely helpful.

The pessimism concerning this disease is unwarranted. The treatment, however, must consist in considering the patient as a whole and not the joints alone. Approximately 25 per cent of patients with rheumatoid arthritis are cured and 50 to 70 per cent are definitely improved under medical care. The remaining 5 to 10 per cent of the cases run a relentless crippling course resistant to all therapeutic measures.

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The President's Page

Governor Meadows again demonstrated his profound interest in the general welfare of the people of West Virginia when he appointed the medical members of the Advisory committee to the legislative interim committee created for the purpose of studying the public health situation in West Virginia.

He has picked a group of men representing a cross section of the different types of medical care in the state, giving representation to the industries, mines, and agricultural practices. At the same time, he has selected men who by their prior performances in the affairs of the State Medical Association have demonstrated their knowledge and ability to intelligently represent the Association on this committee. They will contribute important facts, real ideas, and brilliant performances.

"He who, self-sufficient, does refuse
All aid of men, must be a God or fool."

As president of the West Virginia State Medical Association and as an individual, I am proud of this committee. We are extremely fortunate to have in our Association such a group of men to represent us. When they have finished their work, history will have been made in the annals of medicine in West Virginia.

Thomas R. Harris

President.

West Virginia Medical Journal

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SENATOR WAGNER AND HIS BILL

We have a letter (reproduced elsewhere in this issue of The Journal) from Senator Robert F. Wagner, co-author of S. 1050, in which he invites "constructive suggestions from the medical profession." Probably the same or similar letters have been sent to all the state and regional medical journals inasmuch as a similar letter has already been published in *The Journal of the A.M.A.*

Senator Wagner emphatically denies that his scheme for compulsory sickness insurance will socialize medicine. He likewise denies any intention of professional socialization, and says, "We are opposed to socialized medicine or to State medicine". He even dubs his scheme "health insurance" when, in our judgment, it is in fact plain unadulterated compulsory sickness insurance. Attention is called to the number of organizations which have been consulted in the preparation of S. 1050. Of the medical organizations mentioned, we dare say that four out of five practicing physicians never heard of any of them. On the other hand the names of the great two which represent the vast majority of the medical profession and which by and large are best prepared to advise in such matters—The American Medical Association and the National Physicians' Committee—are conspicuous by their absence. It would seem that, as is so often the case, the vociferous minority has been listened to rather than the great organized body of the multitude involved.

We feel sure that the official representatives of the American Medical Association would be glad to confer with Senator Wagner as to a satisfactory medical care program for the entire American people.

The preceding paragraphs have been addressed to the doctors of West Virginia, but henceforth we shall address the distinguished Senator from New York in compliance with his request for "constructive suggestions."

Your language, Senator, is not entirely clear as to whether you desire "constructive suggestions" from doctors as individuals or from the organized medical profession. In order to clarify the point, we make you the following suggestion, and we believe it to be constructive:

Get in touch with the Office of Defense Transportation and urge that an early meeting of the House of Delegates of the American Medical Association be authorized. This body has only one hundred and seventy-five members and a meeting involving so small a number could not possibly add materially to the enormous transportation burden obviously existent now. An earnest request for this meeting, coming from one who wields the great power you do in official Washington, would not, we dare say, be denied. Then get in touch with the Secretary of the American Medical Association, Dr. Olin West, 535 North Dearborn Street, Chicago, Phone Superior 0880, and ask permission to appear before the House of Delegates and present your views and the aims you hope to accomplish. Also ask permission to appear before the reference committee which will consider S. 1050. In other words, instead of getting your advice from and dealing with the communistic fringe of the medical profession, go directly to the policy-making body of the organized profession, the authorized representative spokesmen for medicine duly elected in a democratic manner. Lay your cards on the table and argue out the probable effects and implications of the legislation you advocate.

The members of the House of Delegates are just plain, hard-working, every-day American doctors trying to do a good job of building a better and healthier America. The vast majority of them are possessed of a reasonable supply of plain, common barnyard sense, and, in the final analysis, if you will argue out your plan with them and show

them how they can do a better job for the American people by following your plan rather than the one they have themselves developed, they will go along with you. If you will accept this bit of "constructive criticism" which we offer you herewith, you will be dealing directly with the elected representatives of the entire profession, whose duty it is to lay plans and fix policies for the guidance of the individual doctors who have to do the actual work of carrying out any and all plans for medical care.

Further "constructive suggestions" we have to offer you, Senator, are:

1. Get in touch with the War Man Power Commission and urge that occupational deferment be granted a reasonable number of premedical and predental and medical and dental students. The stupid and short-sighted policy now followed by the WMC cannot help but result in a dearth of medical and dental graduates after 1948 to the great detriment of the general health. Support the Ellender Bill yourself and urge upon your legislative confreres to enact this bill promptly.

2. Have enacted a bill providing for a Department of Public Health and include in this one agency all the health and medical activities of the federal government, exclusive of those having to do with the armed forces and the Veterans' Bureau, this department to be presided over by a secretary of public health, who should hold the degree of Doctor of Medicine and have a seat in the President's cabinet.

3. Have included in your legislative proposals a provision that the Surgeon General of the Public Health Service must hold the degree of Doctor of Medicine.

4. Have included a proviso to the effect that the USPHS is not an agency for the practice of curative medicine, but that its functions are:

(a) Educational;

(b) Preventive;

(c) Research, which should be interpreted broadly enough to include practically anything bearing on health and disease from, say certainly, the investigation of epidemics, the causes and manifestations of disease, the investigation and certification of drugs offered for sale for the prevention and/or the treatment of disease, industrial hazards, and such general problems as require prolonged and costly investigation; and

(d) The furnishing of aid to the health departments of the various states and territories in practically any or all their functions and activities with a planned goal of having all the territory of Continental United States under full-time, trained health units, either as counties or districts, within ten years after VJ-Day.

We are not sufficiently informed, in general economics or actuarial science, Senator, to discuss all the features of S. 1050, but we feel that the thirty-six year period we have spent in medical practice, during which time we have at least tried to do a respectable job of it, has qualified us to speak somewhat authoritatively with reference to health insurance and state medicine, and as to the best and most efficacious methods of medical care. This long experience emboldens us to make one more suggestion which we consider constructive but which you will probably consider the opposite. It is this:

Delete from S. 1050 all provision for sickness insurance. Allow the medical profession, which is now experimenting with a great number of plans for the distribution of the costs of medical care, to evolve its own plans for the accomplishment of the beneficent results you hope to attain by your plan for health (?) insurance. The plans developed by our profession probably will not be uniform for the entire country. In fact a nationwide plan that would work for all localities is probably too much to hope for. The variation in climate and terrain and the differing density and character of population would probably render valueless in the wind-swept deserts of Nevada a plan which might prove ideal in the crowded tenements of your own home city.

Give us a chance to work out a problem with which we are both by training and experience much better prepared to cope than you; give us a reasonable time, say five years, in which to accomplish by practical means an end you would attempt to accomplish by waving a legislative wand. Our means will not, we are sure, put medicine in a straight jacket, will not reduce medical practice to mere routine, will not fetter the advancement of medical science, will not introduce mass production methods into the most individual of all human problems, will not break down in the individual the sense of responsibility for his own care and that of his natural dependents, and will not tend to make him a mere automaton to execute the commands of a totalitarian state. But we greatly fear, Senator, that your plan will do all these things and more,

all deleterious to our American health and mode of life. Again we ask, give us a chance before you proceed with your compulsory system of state medicine.

ANOTHER COLUMNIST SPEAKS

Some time ago we commented editorially upon the fact that the column has become a definite institution in that form of American literature represented by the daily newspaper, and cited the fact that the columns not only present a cross section of the better grade of American thinking but are as well a very definite factor in moulding public opinion. At that time we called attention to the fact that several of the better known (and as we hold better thinking) columnists have expressed themselves rather forcibly as to the advantage to the general population of the private competitive practice of medicine over the regimented governmental variety of medical service which some of the idealistic social "uplifters", well meaning perhaps but misguided, would foist upon us, regardless of its deleterious effects upon research, medical progress, and the quality of medical care.

It gives us much pleasure to pay tribute to another distinguished gentleman of the fourth estate, the talented son of a talented sire, who writes the widely read column, "This Morning," in *The Birmingham Age—Herald*, Mr. John Temple Graves. In a recent column devoted to a visit to Northington General Hospital, which he describes as "an empire of medical science, with frontiers pushing beyond imagination", Mr. Graves pays eloquent tribute to the rehabilitation work done at this army hospital at Tuscaloosa and commends especially the efficacy of the doctor in private practice who left the paths of peace to become for the duration a medical officer. Likewise he condemns socialized medicine and commends private enterprise generally. We quote: "You can't find many doctors here who don't believe in the superior merits of private competitive practice to socialized practice. The great medical work being done in this war is being done by men who qualified first in private practice, just as the war production under governmental control is done by men and plants developed through generations of private enterprise".

Personally, and on behalf of the medical profession, we say to this brilliant son of the South, "Thank you, Mr. Graves".

A TIMELY WARNING

Brooks Cottle, editor of the Morgantown Post, has issued a timely warning in connection with the present agitation for the enactment of the 1945 version of the Wagner-Murray-Dingell Bill. He cites the present plight of the Veterans Administration facilities as a striking example of the inefficiency of federal operation, administration, and control of hospitals.

The editorial in the June 13 issue of The Post follows:

> The American Legion and the Veterans of Foreign Wars have joined in demanding what press dispatches describe as "immediate and drastic reforms in the Veterans Administration to avert an imminent breakdown of veterans' hospitalization." Both organizations, in filing separate reports, together with supporting documentary evidence, emphasized that standards in V.A. hospitals are far below those in privately operated hospitals and can be compared favorably only with those in state, county, and municipal institutions—"nothing to brag about."
>
> Now pending in both branches of Congress is the so-called Wagner-Murray-Dingell Bill, a lengthy measure proposing "cradle-to-grave" security for all the people of this country to be supported by an 8 per cent tax on payrolls and out of the general treasury.
>
> One of the many provisions of this bill would place the medical care and treatment of all the people under the Surgeon-General of the United States. . . .
>
> Let's look at the indictment of V.A. hospitals by the American Legion and Veterans of Foreign Wars for whatever light it may throw upon the medical provisions of the Wagner-Murray-Dingell Bill.
>
> The Federal Government has been in the business of operating V.A. hospitals for a quarter of a century. In the conduct of these hospitals, it is dealing with patients toward whom it has a direct and obvious responsibility—the veterans of the First World War and earlier wars fought by this country.
>
> Isn't it highly significant that, after a quarter of a century's experience in conducting these hospitals and during the fighting of another war when the people's sense of gratitude is heightened, Congress should be grimly warned that "immediate and drastic reforms" are needed to "avert an imminent breakdown of veterans' hospitalization"? . . .
>
> If in a quarter of a century the Government

has made such an unsatisfactory record in providing hospitalization for war veterans, what confidence can the whole American people have in turning over the responsibility for their own medical care and hospital treatment to the Government?

If the treatment of a comparatively small number of war veterans has turned out so poorly despite the constant watch which the American Legion, Veterans of Foreign Wars, and other veterans' organizations have kept over the V.A. hospitals, what prospect lies before the American people if an entirely new agency of the Federal Government is suddenly given full and complete control over the care and treatment of all the sick in the country?

All thoughtful persons recognize that a vast gulf stretches between a pretty theoretical plan as it is attractively described on paper and the actual carrying out of a program. But sometimes a specific example is needed to bring starkly to their attention how wide and deep this gulf is. It is, in a sense, fortunate that almost simultaneously with the introduction of the Wagner-Murray-Dingell Bill the Legion and V.F.W. reports on V.A. hospitals have been presented to Congress and the people. Here is a specific example from which a valuable lesson can and should be learned before the country has committed itself to this vast experiment.

NPC CONTINUES FIGHT

Doctors who believe that the grave threat of political medicine, once more raising its head in the form of a revamped Wagner-Murray-Dingell bill, should be combatted in the most effective way possible, should send their contributions to the National Physicians Committee at 55 East Washington Street, Chicago 2, Illinois. The individual support of every member of the medical profession who believes in our system of private medical practice is needed.

Since the creation of this AMA-approved committee five years ago, over 25,000 doctors have donated sums of money to aid in the fight against socialized medicine. The new Wagner-Murray-Dingell bill is S. 1161 outfitted in a new dress. Analysis shows that it has practically the same purpose as the bill introduced in 1943: governmental control of medical practice.

The national Physicians Committee, which has sent a printed explanation of the new bill to doctors all over the country, has no big purpose other than to fight to prevent the regimentation of American doctors. The committee believes with us that the right to practice medicine in the American way must be preserved. It is a non-political, non-profit organization.

We know of no organization that has done so much to forestall the enactment of legislation inimical to the medical profession than the National Physicians Committee. We cannot urge too strongly that you lend your financial support at this time, as it appears that agitation now for the passage of this bill is greater than it was two years ago. The NPC is your committee. The success or failure of its campaign is the personal concern of every doctor.

VICTORY IN EUROPE

It seems particularly fitting that our day of victory in Europe should have come in May, for May is the month that we long ago selected in which to have our day of remembrance, and there is much that we must not forget.

We must not forget our grim horror at the tales of Buchenwald, Nordhausen, Belsen and Erla, at prisoners of war murdered in the snow, at unrestricted U-boat sinkings, at Coventry and at the blind rage of rocket bombs. We must remember these things, not with hate, but with a long memory that can outlive the passing of events.

We must remember the soil that will be forever reddened with the blood of young Americans—at Kasserine Pass and over the hills that fall away to Tunis and Bizerte, in Sicily and at Salerno, at Benevento and Cassino, in the cockpit of Anzio and up on the bony ridge of Italy, on the beaches and across the fields of France, and on the plains and by the rivers of Germany.

We must bear in mind certain words that have become part of our spiritual bill of rights—"That from these honored dead we take increased devotion to that cause for which they here gave the last full measure of devotion; that we here highly resolve that these dead shall not have died in vain; that the nation shall, under God, have a new birth of freedom. . . ."

We must remember a new lesson, phrased by Norman Corwin in words written apropos of this event that we now commemorate—"We've learned that freedom isn't something to be won and then forgotten. It must be renewed, like soil after yielding good crops; must be rewound, like a faithful clock; exercised, like a healthy muscle."

And still we must remember that another victory is yet to be won, our power redeployed, another mile traversed, however long, before we can devote ourselves fully to the problems of a peace so hardly won.—New England Journal of Medicine.

General News

FIRST CLASS GRADUATES AT MCV UNDER COOPERATIVE PLAN WITH WVU

The first group of students who completed their first and second year of medicine at West Virginia University and their third and fourth year at the Medical College of Virginia, under the new cooperative plan agreed to by the two schools, were awarded diplomas at the commencement exercises at Richmond, June 16.

Nineteen students completed the course under the arrangement in force, but the graduating class in medicine itself included a total of twenty-nine students from West Virginia.

The commencement address was delivered by Governor Clarence W. Meadows, who stressed the importance of continuing the doctor-patient relationship that has been held so sacred throughout the years. "This relationship," he said, is "personal and time honored, and assures the patient the highest type of professional care."

The Governor declared that there must be a distribution of the cost of medical care through the medium of some form of prepayment hospital and medical care insurance for citizens of low or moderate income. He called upon the medical profession to asume a major portion of the responsibility in the study of this problem. "The medical profession, he said, "is inevitably involved, as perhaps no other group of our citizens, in a new social trend. By whatever name you call it, whether it be 'socialized medicine,' or otherwise, it will be only through highly intelligent and realistic leadership and planning that this trend can be properly directed."

(Ed: Governor Meadows' address will be published in the August issue of The Journal.)

The following students from West Virginia were members of the graduating class in medicine:

Kenneth Dale Bailey, Clarksburg; Roberta Hall Benchea, Weston; Reece Richard Boone, Jr., Smithers; Frank Matthew Booth, Jr., Huntington; William Mark Bruch, Bluefield; Walter Edward Bundy, Jr., Oak Hill; Robert Luikart Chamberlain, Philippi; John Wallace Compton, Jr., Ronceverte; William Edgar Copeland, Huntington; Leonard James Flohr, Huntington.

Lois Fox Fryer, Bridgeport; Paul Spiro Gotses, Fairmont; Charles Henry Hagan, Jr., Huntington; George Douglas Hayden, Huntington, Clara Mae Iseley, Huntington; Alfred Joseph, Whitesville; Edwin Julian Kamons, Parkersburg; Frederick Vivan Lilly, Montgomery; Franklin William Mallamo, Fairmont; John James Marra, Morgantown.

Elliott Moses Namay, Charleston; Paul Ward Robinett, Huntington; William Harry Robison, Morgantown; Roy Burton Sampson, Jr., Beckley; John Franklin Sinnett, Superior; Archie Carey Thompson, Charleston; Earl Edward Wilkison, Parkersburg; Fred Eugene Wise, Jr., Marmet; and, David Earl Yoho, Moundsville.

Each of the male students received a commission either as First Lieutenant in the medical corps of the Army, or Lieutenant (j.g.) in the medical corps of the United States Naval Reserve.

Two West Virginians, William Crawford French and Walter Leroy Thurman, Jr., both of Charleston, were graduated from the School of Dentistry, and commissioned as Lieutenant (j.g.) in the United States Naval Reserve.

In the school of Nursing, the following West Virginia students were awarded their diplomas: Helen Margaret Deghilage, Charleston; Retta Stull Greever, Fayetteville; Helen Virginia Moosey, Monongah; Margaret Barrick Stokes, Shinnston; and, Laura Mae Winter, St. Albans.

At the exercises which were held in the Mosque Theatre, Frederic William Boatwright, a native of White Sulphur Springs, and president of the University of Richmond, was awarded the honorary degree of Doctor of Humane Letters.

Edwin Julian Kamons, of Parkersburg, and Paul Ward Robinett, of Huntington, were elected to membership in Alpha Omega Alpha, and Walter Leroy Thurman, Jr., of Charleston in Omicron Kappa Upsilon.

DEWEY VETOES MILMOE BILL

Governor Thomas E. Dewey, of New York, vetoed the Milmoe Bill and the Bannigan Bill on April 21, thereby refusing to compromise standards of medical education. The Milmoe Bill would have admitted to New York State examination for medical licensure graduates of any medical school in the country, whether accredited or not by the state, for a period up to July, 1946. The Bannigan Bill would have made this privilege permanent.

In his memorandum vetoing the bill Governor Dewey concluded: "The lives and health of the people of the state are a sacred charge. They cannot and must not be exposed to the danger of bad medical treatment. The Department of Education certifies that such would be the result of these bills, and I am compelled therefore to disapprove them."—News Letter, Medical Society of the State of N. Y.

PHYSICIANS' ADVISORY BOARD NAMED

Mrs. U. G. McClure, president of the Woman's Auxiliary to the West Virginia State Medical Association, has anounced the apointment of a Physician's Advisory Board for 1945-46, as follows: Drs. Hu C. Myers, Philippi; H. V. Thomas, Clarksburg; John P. Helmick, Fairmont; Scott A. Ford, Beckley; and U. G. McClure, Charleston.

The following chairmen of standing committees have been appointed by Mrs. McClure to serve with other chairmen named late in May: Convention, Mrs. Edwin J. Humphrey, Huntington; press and publicity, Mrs. W. Paul Elkin, Charleston; and, speakers bureau, Mrs. John W. Hash, Charleston.

DR. LEO MYNES HONORED

Dr. Leo H. Mynes, Kanawha County School Health Director, has been elected a member of the board of directors of the National Tuberculosis Association.

GOVERNOR NAMES DOCTOR MEMBERS OF COMMITTEE FOR HEALTH STUDY

Governor Clarence W. Meadows has appointed eight doctors as members of the advisory committee which is being set up under the provisions of a concurrent resolution (H.C.R. 4) adopted by the legislature for the purpose of consulting with a legislative interim committee in an investigation and study of public health problems in West Virginia.

The group just appointed is composed of Drs. D. A. MacGregor, Wheeling; E. A. Trinkle, Weston; G. O. Martin, Martinsburg; N. H. Dyer, Bartley; R. J. Wilkinson and Ray M. Bobbitt, Huntington; R. O. Rogers, Bluefield; and, George F. Grisinger, Charleston.

At the organization meeting of the group, held at Charleston, June 7, Dr. R. J. Wilkinson was named chairman. In a long session, the group considered the operation and further development on a local or statewide basis of medical-surgical-hospital service plans in West Virginia. The interim committee has made this study the first order of business.

Dr. Carl Frasure, head of the department of political science at West Virginia University, who has been named technical adviser to the interim committee appointed under the provisions of H. C. R. 4, met with the group at the night session.

Another meeting of the doctor-group is being held today (June 28) as this issue of the Journal is on the press. Officers of the nineteen medical-hospital service plans in the state, as well as representatives of the Hospital Association of West Virginia, are meeting with the group at Charleston.

DR. CARLSON NAMED DIRECTOR

The Research Council on Problems of Alcohol, with headquarters in New York, has announced the appointment on a part-time basis of Dr. Anton J. Carlson, as director of the Council.

Doctor Carlson, who is past president of the American Association for the Advancement of Science, has served as president of the Research Council since 1942. He taught physiology at Stanford University, was a research assistant with the Carnegie Institution, an instructor at the Woods Hole Laboratories, and professor of physiology at the University of Chicago from 1909 until his retirement in 1940. He is now professor emeritus.

He has contributed to numerous Journals of physiology on his researches on the heart and circulation, the heart nerves, the lymph and lymph formation, the thyroids and the parathyroids, the nature of hunger, gastric secretion, metabolism and other scientific problems.

PHC MEETS JULY 5-7

The regular summer meeting of the public health council will be held at the Daniel Boone Hotel, Charleston, July 5-7, 1945, for the purpose of examining applicants for licensure to practice medicine in West Virginia.

AMENDED COMPENSATION LAW FIXES 90-DAY LIMIT FOR FILING BILLS

A few changes were made in the compensation law at the regular session of the legislature in 1945. Of particular interest is the new provision that requires a doctor to file his bill for services within three months after treatment has been completed. After that time, the bill is barred by statute, and the commissioner has no discretion in the matter.

Mr. C. L. Heaberlin, state compensation commissioner, has suggested that the following new sections III and IX be reproduced for the benefit of members of the medical profession who treat or handle compensation cases:

SECTION III.—DISBURSEMENTS FOR MEDICINE, HOSPITAL TREATMENT, ARTIFICIAL LIMBS AND OTHER APPLIANCES; CONTRACT BY EMPLOYER WITH HOSPITAL PROHIBITED. Except in case of silicosis, the Commissioner shall disburse and pay from the fund for such personal injuries to such employees as may be entitled thereto hereunder as follows:

(a) Such sums for medicine, medical, surgical, dental and hospital treatment, crutches, artificial limbs and such other and additional approved mechanical appliances and devices as may be reasonably required; NOT HOWEVER, in any case to exceed the sum of eight hundred dollars: PROVIDED, HOWEVER, That in exceptional cases where the treatment required, in the opinion of competent medical authority, is such as to necessitate an expenditure in excess of such amount, the Commissioner may, with the approval of the employer, pay such sum as may be necessary, not however, in any such special case to exceed an additional sum of eight hundred dollars or a total sum of sixteen hundred dollars.

(b) Payment for such medicine, medical, surgical, dental and hospital treatment, crutches, artificial limbs and such other and additional approved mechanical appliances and devices authorized under subdivision (a) hereof may be made to the injured employee, or to the person or persons who have furnished such service, or who have advanced payment for same, as the Commissioner may deem proper, but no such payments or disbursements shall be made or awarded by him unless duly verified statements on forms prescribed by the Commissioner shall be filed with the Commissioner within three months after the cessation of such treatment or the delivery of such appliances.

(c) No employer shall enter into any contracts with any hospital, its physicians, officers, agents or employees, to render medical, dental or hospital service or to give medical or surgical attention therein to any employee for accidental injury compensable within the purview of this act, and no employer shall permit or require any employee to contribute, directly or indirectly, to any fund for the payment of such medical, surgical, dental or hospital service with such hospital for such accidental compensable injury. Any employer violating this section shall be liable in damages to his or its employee and shall not avail himself of any of the common law defenses mentioned in section eight, article two of this chapter, and any employer or hospital or agent or employee thereof violating the provisions of this section shall be guilty of a misdemeanor and upon conviction thereof shall be sentenced to pay a fine not exceeding one thousand dollars or to undergo imprisonment not exceeding one year or both.

SECTION IX.—PHYSICAL AND VOCATIONAL REHABILITATION. In cases where an employee has sustained a permanent disability, or has sustained injuries likely to result in permanent disability, and such fact has been determined by the Commissioner, and the employee can be physically and vocationally rehabilitated and returned to remunerative employment by vocational training, by the use of crutches, artificial limbs, and/or other approved mechanical appliances, or by medicines, medical, surgical, dental or hospital treatment, the Commissioner shall forthwith, after due notice to the employer, expend such an amount as may be necessary for the aforesaid purposes, not, however, in any case, to exceed the sum of eight hundred dollars. No payment, however, shall be made for such purposes as provided by this section unless authorized by the Commissioner prior to the rendering of such treatment.

EYE-BANK FOR SIGHT RESTORATION

The Eye-Bank for Sight Restoration, Inc., has been established in order to make available to hospitals and surgeons who are qualified to perform the corneal graft operation a supply of fresh or preserved corneal tissue, wherever and whenever needed. In brief, the objectives are as follows: To encourage and extend, by teaching and research, the knowledge and skill required to perform the operation; to establish sources of supply of salvaged eyes and corneal tissue; and to establish an eye-bank for the collection, preparation, storage and redistribution of salvaged eyes and corneal tissue.

Money is needed to extend the horizon of this work, and fellowships will be established when sufficient funds have been raised. Qualified eye institutions throughout the country may apply for these fellowships.

Initially, the needed space and personnel has been made available in the Manhattan Eye, Ear & Throat Hospital, in New York City. The Eye-Bank will acquire additional space, personnel and equipment as needed, so as to serve not only the New York area but localities throughout the country.

Any eye which is sent to the Eye-Bank will have a complete pathological study made and a report sent to the institution which supplied the eye, on request. Bacteriological studies will also be made for possible contamination, etc. A subsidiary function of the Eye-Bank is to stimulate an interest in research work on blindness resulting from corneal damage for which fellowships and scholarships are to be established and distributed to qualified institutions throughout the country where this work can be performed.

CALIFORNIA INCREASES DUES

The House of Delegates of the California Medical Association has fixed annual dues for 1946 at one hundred dollars per member. The increase was recommended by the Council for the following reasons:

(a) Loss of revenues in the past three years, due to waiver of dues of members in the armed services, now numbering over 2,200;

(b) Need for adequate funds to aid doctors returning from the armed services and, in general, to assist during the inevitable disruption of relocation from war- to peace-time practice;

(c) Need for adequate funds for postgraduate studies, and refresher courses for doctors whose practices have been restricted, due to military service or work in war industrial areas;

(d) Need for further funds to promote more widespread participation in voluntary medical and hospital prepayment plans; and

(e) Necessity of reestablishing the reserves of the Association, which are being constantly diminished by costly national and state public relations activities and increased cost of operation of all Association functions.

DIVISION APPOINTMENTS ANNOUNCED

Mrs. Marguerite Stillman, of Morgantown, has been named as field representative of the division of vital statistics of the state health department. Her principal duties will be to investigate complaints of failures to report births and deaths, and contact and train local registrars in this work.

Mr. Paul B. Shank, also of Morgantown, has been appointed auditor in the state health department for the purpose fo reviewing statements submitted by approved hospitals for all-inclusive per diem rates for hospital service for EMIC patients. He will also assist hospital personnel in preparing statements for submission to the division.

SMA ARRANGING PROGRAM

At a meeting of the executive committee of the Southern Medical Association, held at Birmingham, Alabama, late in May, it was unanimously agreed that a skeleton program should be set up and speakers invited to present papers at the annual meeting to be held in the fall. If authority for the meeting is granted by the ODT, the time and place will be announced shortly after Sept. 1.

In the skeleton program that will be set up, each section will have one full session with six papers. No clinical sessions will be held, as all available time will be given to the sections.

KANAWHA HEALTH OFFICER APPOINTED

Dr. E. L. Langs, USPHS, acting director of the division of communicable diseases, state health department, has been appointed health officer for Kanawha County, succeeding Dr. Albert M. Price, who resigned some months ago and is now engaged in private practice in Charleston. Dr. T. E. Romine, of Charleston, who has been acting county health officer, has been named as assistant to Doctor Langs.

TUMOR CLINIC AT FAIRMONT

A tumor clinic has been organized at Fairmont under the joint sponsorship of the Marion County Medical Society and the county health department. Nursing service and follow-up work is being provided by the personnel of the health department. The clinic will be held on the first and third Thursday of each month.

Doctors in the Service

Captain Leonard Eckman, of South Charleston, has sent us a cloth insignia, swastika and all, used by the German infantry. In his letter, written two days before V-E Day, he discusses the attitude of the Germans who realized then that the war was lost:

6 May 1945

Dear Mr. Lively:

The copies of the Journal have been reaching me quite regularly now, so thanks a lot for sending them out. By the time this letter reaches you I'm hoping that V-E day will be something already in the past and that those relatively few German armies still fighting will have surrendered.

I've been in Germany for quite some time now and have put a lot of miles inside the Reich. Some of it, particularly along the valley of the Rhine, is beautiful country and those few places that don't show the marks of war almost made me feel I wasn't in uniform.

The defenses along the western border of Germany were something to see. Pillboxes by the hundreds, some of them with concrete walls eight feet thick. Anti-tank ditches, ten and fifteen feet wide, almost as deep, and extending for hundreds of yards. Dragons' teeth, road blocks of logs and dirt and concrete and steel, sometimes every few hundred yards. The deeper you travel into the country, the less you find of defenses.

The outstanding thing to me has been the destruction wrought by the Air Force, and to a lesser extent by the artillery. It is much worse than France ever received. You can travel thru big cities and find hardly a building left intact. Little has been spared.

Up until this time I have moved quite a bit in Germany. Now we're in a German barracks evacuated very hastily by a garrison of infantry troops. The souvenir hunters, myself included, had a field day, since the place wasn't mined or booby-trapped. Back in Metz, I gave a lot of candy for Nazi insignia. Here I could walk into a supply room, tailor shop, armorer's room, etc., and take my choice of any of thousands of items, from buttons thru blankets.

The non-fraternization policy prevents us from having but the minimal relations with Germans. The civilians aparently are the "good" kind. On one occasion when I was arranging with the assistant burgomeister for transportation for some Russians and Poles and Czechs, he went to great lengths to explain the difference between ordinary Germans and Nazis. But he shut up darn fast when I told him that our policy was that all Germans are alike.

Another time, I had to provide transportation to a nearby civilian hospital for a woman with a serious skull fracture. Some lanky civilian shoved up and offered to be interpreter. He spoke English pretty well and explained that he used to work in Hoboken and had relatives in the States. The fact that I wouldn't talk to him at all didn't deter him, and I simply walked away as the ambulance pulled out.

In one town an infantry officer asked me to examine a dozen wounded German soldiers left behind when the Wehrmacht pulled out. Ten of them were in a convent high up on a hillside, and spared by our bombers. My brief visit there gave me the impression that the German medical care had broken down. The men had been wounded anywhere from four to 24 months previously, and were left behind because their homes were in the area. They were quite polite and gave whatever information I demanded. All were hopelessly crippled, legs missing, legs stiff and shortened, arms paralyzed, and other injuries. What was most evident was the complete lack of physiotherapy and of artificial limbs. They had crutches and nothing else, despite the long time they had been wounded. The stump of one man who lost his leg a year ago was still unhealed.

All over Germany are uncounted numbers of "displaced persons," Russians, French, Poles, Lithuanians, Czechs, and Italians. French soldiers are constantly on the road walking, on bicycles, or jammed in trucks, always going west. I think that the German civilians are scared stiff of these people, and I can't blame them for not liking the Germans. The job of returning them to their homes will be tremendous.

Sincerely,
Leonard M. Eckman.

* * *

Lt. Col. Pat. A. Tuckwiller, of Charleston, has been with a station hospital in France for about two months, and is now moving into Germany, where he will be chief of medicine in an Army hospital. In a recent letter, he mentioned that Lt. Col. Cyrus Maxwell, of Mrogantown and New York, has been serving as commanding officer of an adjacent hospital in France.

* * *

Capt. V. L. Peterson, of Charleston, was visiting at home early in June. He was ordered to report to Fort Jackson, South Carolina, where he will be attached to the ASF Regional Hospital.

* * *

Major Paul H. Revercomb, of Charleston, has recently been assigned to a general hospital in Hawaii, where he is chief of medicine. He was formerly located at the Woodrow Wilson General Hospital, Staunton, Va.

* * *

Lt. Comdr. E. Lyle Gage (MC), USNR, of Bluefield, who recently returned from two years' service in Sicily, has been assigned to the U. S. Naval Hospital, at Bainbridge, Maryland, where he will be in charge of neurosurgery.

* * *

Captain James Walker, of Charleston, who has been with a Bomber Squadron in Italy, writes that he has had a short rest period in southern France, since V-E day, and a trip to Naples.

* * *

Capt. Robert M. Lamb, of Winona, has been transferred to Robins Field, Georgia. He was formerly located at the Army Air Base Station Hospital in Augusta.

* * *

Major John C. Condry, of Charleston, has seen Buchenwald and he, too, writes of the problem of "displaced persons" left wandering over Europe:

Austria
14 May 1945

Dear Mr. Lively:

We were going so fast when peace was declared that we put on our brakes and skidded half-way across Austria before we stopped. We are very well housed and at present functioning as a small station hospital for the troops in this vicinity.

The biggest medical problem over here is the care of the thousands and thousands of so-called "displaced persons," whom Hitler and his gang literally worked to death. They are all practically starved, many diseased, and all in a pitiful mental state.

Among other things, I have seen Buchenwald about which you have probably read a lot by now. And in addition to the "camp," there are thousands of people wandering the streets and roads. Any of us who have seen it will not be too easy on the Germans, Nazis or otherwise.

Don't know yet what to expect, but it looks like it might be the C.B.I.

Sincerely,
John.

* * *

Lt. (Jg) W. R. Stevens (MC), USNR, of Kimball, is assigned to a transport operating somewhere in the Pacific. Acknowledging receipt of his 1945 membership card, he writes of other West Virginians whom he has seen during his service in the Navy:

19 May 1945

Dear Mr. Lively:

I received my March issue of the Journal out here in the Pacific, some seven thousand miles from home. I welcomed it "with open arms," as it was the first copy I have received in quite some time. I have been moving around considerably and was negligent in not informing your office of my change of address, which likely accounts for the delay.

I also received my 1945 membership card and am grateful to the Medical Society members of McDowell County and the State Medical Association members for this consideration.

I have not seen any West Virginians of the medical profession recently, but some time ago I saw Dr. L. S. Wornal, of Shinnston, who is also senior medical officer of an attack transport.

While I was on stateside duty I became acquainted with Dr. William L. Neal, of Huntington, Dr. R. C. Fugate, of Bluefield, and several others whose names I do not recall at the moment, but the memory of their personalities is still pleasantly retained. I enjoyed the hospitality of Dr. and Mrs. Villani, of Welch, on numerous occasions at Camp LeJeune, New River, North Carolina, when we were there concurrently just prior to his departure for overseas duty.

Sincerely,
W. R. Stevens.

* * *

Capt. F. E. Amick, of Charleston, writes that he has been travelling through Germany since early in May. He describes the German cities along the Rhine, from Remagen to Mannheim, and mentions the many places that have been destroyed as well as the beauties of certain sections which have not been touched by the war.

* * *

Comdr. Russell Kessel (MC) USNR, of Charleston, who has seen service in various parts of the United States during the past several months, is now assigned to a special augmented hospital somewhere in the Pacific. He writes most interestingly concerning the organization of his unit into a fleet hospital:

7 June 1945

Dear Charles,

I have intended notifying you of my change of address for several months, but since I have not had a permanent address for over a year, I have let it drift by. Now that I do have an address which will probably remain permanent for one or two years, I would like very much for you to forward The Journal and bulletins to me regularly.

At the moment I am at sea, but quite soon our hospital will arrive at the target. We have quite an organization, and an exceptionally well balanced staff. Eventually we will become a fleet hospital and my duties then will be quite different from my practice in the Kanawha Valley. I am now serving as executive officer, but after we become a fleet hospital I will be chief of the surgical service ,and will be delighted to get over on the clinical side of the ledger again.

During the past year, I have seen the West Virginia Medical Journal in several unusual places, and I have enjoyed reading it on all of these occasions. I have also seen several of our mutual doctor friends, and we surely enjoyed shooting the breeze about home and all those material things we miss most.

I hope your health is excellent and that everything continues on an even keel with the State Medical Association. My best regards to you and all of our mutual friends.

Sincerely,
Russel Kessel.

* * *

Dr. John W. Hash, of Charleston, who has been in India for over two years, has been promoted to the rank of Major. He was recently transferred from a station hospital to a generla hospital, where he is assistant chief fo medical service.

The following letter, written by Major Hash June 10 and sent by ordinary mail, was delivered in the record time of ten days:

India
June 10, 1945

Dear Mr. Lively:

We are getting a taste of our third monsoon in these tea patches of India, and don't relish it too much. The temperature was only 130° yesterday, and the summer is young at this point.

The Journal is coming regularly, and still is an interesting feature of our mail. The March issue just got here, but it probably was delayed along the line somewhere. I also received my membership card and want to thank you for it.

Since last fall we have been a General Hospital. Our staff has remained the same essentially, but we have gotten several additional doctors. Major Chandler remains is his former capacity as assistant chief of the medical service.

I was particularly interested in the March issue of the Journal, because it contained a letter and picture of Capt. T. S. McIntire, whose whereabouts were unknown to me. There have been very few West Virginia doctors in this part of India. Recently, I did see Capt. Wilson Shortridge, of Morgantown.

We are hoping that rotation, points or MacArthur will liberate us from this valley and we can see you in Charleston by Christmas.

Sincerely,
John W. Hash.

POST-WAR USE OF PLASMA

Every physician now in the armed forces will on return to private practice use plasma in quantities not thought of before the war. It is time we gave some thought to possible sources of human plasma. The Red Cross Service will not be availbale for civilians.—Roving Reporter in J. Missouri State Med. Assn.

CHRONIC PASSIVE DIGESTION

We have watched the development of hospital and sickness insurance in the past several years and we are convinced that the standard model United States citizen can be taken care of better, more completely and efficiently by private insurance interests than by governmental control, but there is one gent we would like to get our hands on—it's that verbose hombre who conjures up all the foolish questions on the various insurance forms—those blanks of iniquity that are firmly presented to the doctor with a request to "Please fill in". These forms are to be completed by the physician so that the patient will be able to secure some negotiable Morgenthau pocket lettuce to pay the hospital bill and doctor—if and when.

The insurance company merely wants to know: the patient's name, address, sex, age, married or single, occupation, present illness, past history, physical examination, laboratory tests, x-ray reports, operation performed, type of anesthetic used, pathologist's report, name of the hospital, exact hour of admission, exact hour of discharge, length of total disability, length of partial disability, and so on into the night. At the end of all of these questions the physician is asked to give his permission for the insurance company to inspect the hospital record so that they can get the same infromation which he has just given them.

Oh, Aesculapius! Oh, Apollo! Grant us relief from this deluge of forms, blanks and questionnaires.—J. J. Lightbody, M. D., in Detroit Medical News.

WOMEN AND THE WAR

It must have been a renowned erudite who said, "The hand that rocks the cradle rules the world," because the inevitable truth contained in that one sentence has withstood the attacks of time itself.

When the history of World War II is written, we will discover that woman has again played a major role in this drama of Victory and that their individual and collective efforts have been the source of great inspiration to our armed forces. The nurses, Waves, Wacs, Spars, the millions of women war workers, Red Cross workers, nurses' aides, etc., all have shown that indomitable American spirit of cooperation in this tough job of War.

As we approach the dim twilight of this great catastrophe, we think of the quiet devotion of the wives of servicemen; those who have maintained home and family with an effort "above and beyond the call of duty." There should be some sort of congressional recognition for domestic courage and valor.

We are proud of the part the women of America are playing in this war, and the Woman's Auxiliary has helped to maintain this high standard of service and sacrifice by giving many precious hours to the numerous homefront war activities. We are hoping that in the future more doctor's wives will avail themselves of active membership privileges in the Woman's Auxiliary.—J. J. Lightbody, M. D., in Detroit Medical News.

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INDIGENT FORGOTTEN BY PLANNERS

The care of the indigent has for many decades been willingly accepted by physicians, and suitable institutions have been created usually under state and local community direction supported by the state and community by taxation and by private funds. The indigent share with others the improvements and advances in medical care, but it is noted that the plans for socialized medicine give scant attention to this group, from whom but little political advantage can be gained.—Ernest E. Irons, M. D., in J. A. M. A., July 29, 1944.

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THE DOCTOR AND PUBLIC HEALTH PROBLEMS*

By CLARENCE W. MEADOWS
Governor of West Virginia

It is certainly a distinct privilege to address this graduating class of doctors, dentists, pharmacists and nurses. You have indicated by arduous study, and I dare say after experiencing many moments of discouragement, that you are qualified to begin life's work, a work that is entirely humanitarian and unequaled in any other field of endeavor, for your motto is and must continue to be "Service." Also the privilege of being here tonight is heightened because many of you are West Virginians and will soon return to our state to begin practice in your chosen field.

Then, too, it is always a pleasure to visit Virginia, the mother state, and the historic city of Richmond. To see this College, so steeped in medical tradition, and to note the progress that is being made in providing the highest type of professional training, permits me to share in the pride you so justly have in this great institution.

While I congratulate you upon your splendid achievement and wish for you every success in your great field of work, I would have you remember that with every success, additional responsibilities must be honestly and fearlessly assumed. Today your profession is inevitably involved, as perhaps is no other group of our citizens, in a new social trend. By whatever name you may call it, whether it be "socialized medicine" or otherwise, it will be only through highly inteligent and realistic leadership and planning that this trend can be properly directed. So directed, every citizen can be assured adequate hospital and medical care, and at the same time, ample protection afforded the medical profession by a continuance of the doctor-patient relationship.

Notwithstanding the tremendous strides that have been made in both preventive and curative medicine, the fact remains that all of the people are not receiving adequate medical care. This is emphasized by Selective Service statistics which reveal the startling fact that aproximately 35 per cent of our young men are physicaly unfit for military service. In this connection, I refer you to an article appearing in the Steptember 25, 1943, issue of the Journal of the American Medical Association. The study that is reported was made on the 18-19 year old group of young men who were examined. Such shows that 23.8 per cent of white and 45.5 per cent of colored were rejected.

Leading insurance companies, through actuarial studies, are constantly bringing to our attention the ravages of disease and the appalling death rate in this country—216.9 per 100,000 population from heart disease in 1938, 114.6 from cancer, and 49.0 from tuberculosis. And, all this is true notwithstanding the fact that we here in America are enjoying the highest type of medical service offered anywhere in the world.

It is claimed that, due to the unprecedented advancement in medical knowledge, our life expectancy has increased during the past decades; however, I am reliably informed that, in a large measure, this longevity is due to a tremendous improvement in our infant mortality rate, which defi-

*Presented at the Commencement Exercises at the Medical College of Virginia, Richmond, June 16, 1945.

nitely reflects itself upon the overall death figure. While the infant and maternal mortality has decreased, there still remains an urgent need to provide adequate medical and hospital care for expectant mothers and even a larger responsibility in assuring the newborn a fair chance to survive and become healthy citizens. In our state there are many communities without medical service and maternity cases are being left to midwives who are, in many instances, untrained.

Sickness and injury through loss of manpower hours are creating an economic problem that is costing millions and millions anually. This great loss is within our power to reduce materially even though it cannot be entirely eradicated. Let us take stock of what we can and should do.

The crippled child with his heart-rending appeal can and must be restored to at least a physical status where he can assume the responsibility of citizenship and be self-sustaining.

Mental patients have in years gone by been relegated to institutions that were overcrowded and where they received mediocre custodial and medical care. Many of these patients can be restored to society if they are afforded scientific treatment. This calls for close cooperation between the state and the medical profession.

The ravages of tuberculosis have been lessened, but there remains a responsibility in furnishing sanatoria treatment for the early cases and a continuous intensified educational program if the spread of this disease is to be controlled.

The danger signs of cancer are constantly being brought to the attention of the public by the Field Army of the American Cancer Society, and if this program is to be effective we must provide cancer clinics under the direction of competent medical men and make them available to all citizens.

The physical training of youths, especially the under-privileged, cannot be overemphasized. The future of our nation greatly depends upon physical fitness and this development plays a role of no minor importance in mental growth.

With the advent of hospital insurance, thousands of our people are being hospitalized daily for seemingly minor conditions. This has created a bed shortage throughout the country that is reaching alarming proportions. Yet, who will not agree that this condition is exerting and will continue to exert a tremendous influence upon the health of this country. Serious illness will be prevented by early recognition. To provide ample space in well conducted and adequately equipped hospitals, the state must look forward to assuming a larger part of the responsibility, and if high standards which guarantee a superior type of service are to be maintained, suitable legislation will be necessary.

If we are to achieve sucess in meeting the obvious need in providing health for our citizens, there must be highly trained medical people. West Virginia, with the full support of the State Medical Association, has enacted legislation to provide the last two years of medical education at some recognized medical school. You are to be congratulated that the authorities of West Virginia University selected the Medical College of Virginia for this training, and we in turn are honored by being afforded the opportunity to join forces with you in the field of medical education. This reciprocal agreement is quite an innovation, since it is the first time a state has appropriated money for use in another state as a subsidy for education. This pioneer step may in time become far-reaching and change some of our long honored methods in other lines of learning, all to the mutual advantage of participating universities or schools.

Any educational program should include the training of public health officials, for it is through this source that our people can become health conscious. Every county should have an organized public health group whose sole duty it should be to teach preventive medicine, leaving the treatment of disease to recognized practitioners. Since public health work is to occupy a prominent place in any future health plan, it would seem expedient to inaugurate such courses at our leading schools so that professional and non-professional groups may avail themselves of this specialized training.

Because of the increased life expectancy which has been occasioned by the rapid strides made in all lines of medical and surgical work, there are those who think we have reached our zenith and that no further efforts along health lines are required. However, we know that our death rate is too high. Too many of our young people through physical and mental defects are being denied an opportunity to develop into full manhood, and through preventable sickness and injuries our economic system is being constantly upset. Now this has created in the minds of a large segment of our society apparent necessity for some drastic change in our medical setup. In fact, the federal government, acting through the national health organization, has recognized many of the things

referred to and there has been inaugurated a program, through the medium of controlled subsidies, to correct many of these evils. What you particularly should recognize is that such a program may develop into an attempt to regiment physicians and hospitals. This constitutes a definite challenge to your profession and a call for greater and broader service from you.

This whole question becomes further controversial by reason of another large group of our people who honestly and rightfully feel that problems of health belong essentially to state and local communities, and that the federal government should confine its activities to a broad educational health program, providing funds only for the purpose of constructing modern hospitals, which should be state approved.

To meet this problem there must be a distribution of the cost of medical care and this can only be done by some form of prepayment hospital and medical care insurance for the citizens of low or moderate income, and herein lies a mutual responsibility. The state could well supervise any hospital-medical service plan by legislation which would in effect guarantee to the subscriber that funds would be available for this service, and doctors and hospitals must assist by rendering a superior and more far-reaching type of professional care. For the indigent, who are equally entitled to protection, the state through taxation must guarantee this service. Whaever plan is adopted, I believe it highly essential that the physician-patient relationship be not disturbed, for this relationship is personal and time honored and assures the patient the highest type of professional care.

If we are to accept this challenge and provide adequate medical and hospital care for all of our people, there must be understanding cooperation between the state government, medical organizations, labor and industry. If we approach this problem with foresight, realism and humanitarian instincts, I am confident a plan can be divsed, devoid of political manipulation or control, that will guarantee to every citizen this protection regardless of race, color or creed. However, to accomplish this goal, your profession must assume a major portion of the responsibility by wisely directing, counseling and acting.

Believing as I do that this whole problem of medical care should be given real study in the light of developments over the past few years, I recommended to the legislature of my state the appointment of an interim committee for this purpose. Organized medicine, through the West Virginia State Medical Association, backed this proposal solidly, and provision for the study was made through the adoption by both branches of the legislature, without a dissenting vote, of a concurrent resolution creating an interim committee, composed of five members from the Senate and five from the House, which is already at work.

To assist this legislative group, I have appointed an advisory committee, which includes several doctors, a dentist, a pharmacist, a registered nurse, and representatives of the hospital association, a medical-hospital service plan, the State Osteopathic Society, and the West Virginia Medical Society, which is an organization of colored doctors, dentists and pharmacists.

In addition to this professional group, I have appointed on the committee representatives of business and labor, the legal profession, women's organizations, railroads, the coal, oil and gas industry, and other groups within the state.

It is my sincere hope that this representative body of men and women will be able to point the way to a solution of our problems, which are also largely the problems of every state.

Specificaly, this committee will make an overall study of the administration of state-owned hospitals and sanitariums; the enlargement of our present health program so as to provide medical care for the needy in all areas; the further development of medical-surgical hospital plans; and, the whole problem of medical education.

You will be interested to know that in West Virginia we have recently taken a step that should, and undoubtedly will, take our public health setup out of politics. The State Medical Association sponsored bills at the recent session of the legislature providing that, before appointing a state health commissioner or a member of the public health council, which is our licensing board, and under the supervision of which the state health department is operated, the Governor must request from the Association's Council a full report concerning the qualifications and suitability of the proposed appointee. A similar request must be made to the public health council before any person can be appointed as medical head of any state institution.

These proposals, which I believe to be sound, constructive and progressive, had my approval as chief executive, and the bills were passed by the legislature almost unanimously. I make these state-

ments to you because many states are represented in the audience here this evening, and, so successfully are these plans working in our state, that I believe other states will be interested in the results of this sincere attempt to place in all offices that in any way affect the health and welfare of our people men and women who by training and experience are best qualified for this type of work. I say to you in all earnestness that politics has no place in public health.

But such plans can only begin to point the way. The responsibility rests upon you and your profession to carry out the details—to make the plans work. Yours is a high calling. Upon your skill and ability, yes upon your desire to be of service to your felowmen, will be balanced many times the life or death of those who put their faith in you. Be true to your profession and may God bless you with happiness, humaneness and healing power.

SCIENCE OF PSYCHTHERAPY

For thousands of years people have tried by verbal communication to relieve the emotional distress of others. Formal attempts to do so have long been a function of priests, rabbis and ministers for whom the spiritual comforting of their followers was regarded as a professional function. But the word psychotherapy means literally "treatment"—treatment by psychological modalities—and the treatment of a sufferer, the treatment of one who considered himself not grief-stricken or soul-burdened but ill, has long been considered a function of the physician. . . .

Only in the last few decades has there developed a science of psychotherapy. Rational, scientific psychotherapy had to wait for the emergence of scientific dynamic psychology and psychopathology, just as medical and surgical therapies had to be based on scientific physiology and pathology. Also, the special brand of dualism which regarded man's body (soma) as the domain of medicine, and his mind (psyche) as the domain of religion or lay psychology had to be replaced with unitary, mind-body, psychophysical concepts in keeping with the observed scientific facts. "Psychobiology" and "psychosomatic medicine" are attempts to break up this unsound dualism and arrive at a scientific diagnostic appraisal and scientific total therapy of the individual patient as a unit.—Bulletin of the Menninger Clinic.

ATABRINE IN TERTIAN MALARIA

Although the great amount of field and laboratory experience gathered in the last two years has taught us how to use atabrine safely and more effectively, the fact still remains that this drug will not prevent infections, effect radical cures or prevent relapses in a certain percentage of men infected with tertian malaria. Since tertian malaria produces the bulk of morbidity among people in endemic areas, the validity of the statement that "malaria can be licked" by atabrine, or by any other known drug, does not stand up to critical examination.—New England J. of Med.

THE MANAGEMENT OF INOPERABLE CANCER*

By NORMAN TREVES, M. D., F. A. C. S.,
Associate Surgeon, Memorial Hospital,
New York, N. Y.

Director, Tumor Clinic, Meadowbrook Hospital,
Hempstead, N. Y.

A chronic disease as widely prevalent as cancer and of which about 75 per cent of the patients die within four years after the diagnosis is made, presents an enormous problem in terminal care. Pertinent questions with regard to terminal care are: What constitutes adequate care? What patients require hospitalization during this period? What facilities are available? Outside of New York City only about 35 per cent of the cancer deaths occur in institutions. Altogether about 2.5 per cent of the total admissions to general hospitals are for malignant disease. Cancer, however, is a much more serious factor in the nation's health than this percentage indicates. The present development of special cancer facilities has not yet influenced favorably either the morbidity or the mortality from this disease.

In tabulating cancer mortality in New York State during 1944 the death rate was 177 per 100,000 population. For South Carolina the death rate per 100,000 was 50 during the same year. This is a wide variation and many factors must be appraised for such a broad difference. Only a public health statistician versed in biometry could point out the variants. But we may speculate that race, color, and last but not least, acuity in cancer diagnosis and the facilities for the treatment of cancer affect the figures. The latest figure given for the cancer death rate among the total United States population was 165 per 100,000 in 1943. This means that the total number of deaths from cancer during 1944 in our country was, conservatively speaking, 214,000. Levin of the New York State Division of Cancer Control indicates that in New York State, at least, the annual prevalence rate is 3.6 that of the mortality rate. Using this factor (which Levin considers low due to the incompleteness of morbidity reporting) it would appear that there are no less than 772,000 persons with diagnosed cancer in our 48 states. Depending on the site of the cancer, about 30 per cent may be free of disease. This leaves a remainder of 540,500 who are either in the process of being cured or are dying

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*Presented before Kanawha Medical Society, at Charleston, May 8, 1945.

of cancer. How may these figures be applicable to West Virginia? The United States census figures in 1940 gave West Virginia a population of 1,901,974. In the light of these figures how does this affect cancer mortality and morbidity in your state, taking as a round figure 2,000,000 as its present population? Applying 165 per 100,000 as its death rate, about 2,300 persons die annually of malignant disease. If the morbidity rate is 3.6 times this figure there are 7,880 persons with diagnosed cancer in your state. Depending on the site of the cancer perhaps 30 per cent are free of disease. What about the remaining 5,516? While this figure may apear less formidable at first glance, please remember that it is ten times as great as the total deaths from poliomyelitis in the entire United States during 1944. This number 5,516 represents a large group requiring specialized attention either in institutions or the home. The facilities in this state for the institutional care of patients in the terminal stages of the disease appear inadequate. The problem, therefore, is the problem of the practitioner who ministers to them in their homes.

More unpleasant than telling the patient or his family that cancer exists is the duty of informing the relatives that the disease has reached an unfavorable or even incurable stage. This is often the delicate duty of the general practitioner. He has had the patient returned to him following treatment by surgery or radiation therapy, and it becomes his unhappy task to discover recurrence or metastases. It is then his job to take over from the specialist. It is to this group, the family physicians, that these remarks on the care of the patient with terminal cancer are addressed.

In approaching the problem of caring for patients with incurable cancer, we have to deal with a disturbed mental state. Two important questions arise. One is whether a patient should be told he has cancer, and the other is the question of ultimate prognosis. It seems certain that it is better to avoid telling the patient the nature of his disease, especially to avoid being the first to use the word "cancer" which has so many sinister connotations to the lay mind. The question: "Is it cancer?" is sure to be asked by the patient or his family or friends and many patients who will ask to be told the worst are least fitted to know the truth.

Regarding the second question: When a patient knows he has cancer, is it desirable to hold out the hope of recovery even to the last? The difference in the mental outlook of a man who believes his condition to be absolutely hopeless from that of a patient who believes that he has even a 1 in 1,000 chance of recovery is enormous. Even against such hopeless odds one may very infrequently expect spontaneous regression and even disappearance of an advanced cancer. It is quite possible that such regression has made the reputation of certain "constitutional" cancer cures. In all cases where there is no doubt as to the diagnosis, a doctor, for the sake of his own reputation, should tell some relative or friend of the patient the nature of the disease.

In all cases the close cooperation of the specialist with the general practitioner is indicated, not only in the active treatment of the patient, but also in cases in which cure has not resulted. If the specialist and the family physician keep each other advised, each will accomplish his part of the work to the greater advantage of the patient and the family. Wherever the patient is located during the terminal stages, his last days may be made much more comfortable both by intelligent care and medication as well as by optimistic psychotherapy. Never tell a cancer patient or his friends that there is nothing to be done; so long as life lasts there is help to be given, and there are few forms of the disease where the doctor can earn more gratitude than he can by his management of a case of inoperable cancer.

Many physicians feel that the easiest way to treat the patient with incurable cancer is to administer large doses of hypnotics or narcotics, and this is often done indiscriminately. They reason that the end is inevitable and that if the patient is kept continuously under the effect of a drug, he is comfortable and the anxiety of his relatives is relieved. Since no one can tell how long the terminal phase of the disease will last, this attitude is deplorable. Even with the cautious administration of opiates, increased dosage often has to be resorted to so that huge amounts must be used. Neither a patient nor his relatives should judge the quantity of a drug, nor the time interval which should elapse between doses.

EUTHANASIA

It has been felt by many members of the profession that once the terminal stage of cancer has been reached narcotics in large doses should be indiscriminately administered. But, since the life of the patient with incurable cancer is usually of long duration, sedatives, hypnotics and analgesics should be used with utmost caution. Euthanasia

literally means a gentle death of little suffering. Since the subject is not taught in any of our medical schools the physician enters practice having to learn for himself what to do and what not to do in the most solemn and delicate position in which he can be placed, that of attendance upon the dying. It is for him to administer the resources of the medical art in aid of an easy, gentle and placid death.

The word "euthanasia" refers to two things: First, the practice of painlessly putting to death as an act of mercy those suffering from distressing symptoms; and, second, the practice of relieving suffering so that the going-out of life may take place with as little distress and pain as possible. These are such totally different aspects that each should be considered separately.

The state has never sanctioned the first, and the physician is not given the right by any diploma he possesses to administer a drug to cause death. It is probable that even if it were permitted, the majority of doctors would refuse to carry it out, since they enter their profession to maintain and prolong life, not to take it.

Euthanasia is a matter of interest to all for death sometimes comes very slowly, and delay may be tragic to the patient and those around him. A physician is permitted to give drugs to relieve pain and suffering so that life may go on with as little disturbance as possible and death may take place briefly. He may give as much medicine as he thinks a particular patient needs, provided the aim is to relieve symptoms. He must be guided by what he believes will best serve the interest of the patient. It must not be assumed that the administration of drugs to relieve suffering necessarily hastens the end, for if the pain persists it will soon undermine the patient's residual stamina; and even if a drug has a depressing action, its harmfulness may be more than counterbalanced by the serious effect of the prolonged suffering and pain which it is given to relieve. Up to the present the State has entrusted to the medical profession a tremendous power in regard to this aspect of euthanasia, not so much by establishing laws to enable its members to act, but by not establishing laws to limit their power.

Good nursing, and the due administration of light food and stimulants comprise all that is needed. The approaches of death are so gentle and the act of dying so easy, that Nature herself provides a perfect euthanasia.

NURSING CARE

Sympathetic, efficient nursing care, when possible, is a great factor in caring for patients with incurable cancer. A cheerful attendant may be of inestimable value at this stage of the disease. The meticulous care of the patient, judicious medication, and frequent, gentle surgical dressings, when necessary, are not only requisites to comfort, but may prevent the isolation of the individual. Friends and relatives are reluctant to remain in the room when the patient is uncomfortable, or when there is a noticeable odor, due either to poor personal hygiene or the discharge from affected areas.

Frequent dressings diminish secondary infection and lessen the absorption of tumor toxins. These toxic products, when absorbed, add to the anemia usually present during the terminal stage of cancer. A nurse can arrange more comfortable positions for the patient, not only helping to make conditions more bearable, but preventing the development of pressure sores. Cachexia may be obviated by carefully selected diets and by giving frequent, easily assimilated nourishment with the addition of suitable vitamins.

CHEMOTHERAPY

Mention should be made of certain clinical experiments which have been made in testing the use of heptaldehyde bisulfite (sodium alpha hydroxy heptane sulfonate) for the treatment of metastatic mammary cancer to bone. At the Memorial Hospital under the direction of Rhoads, and with the cooperation of the breast department, the work of Strong on laboratory animals has been tested on humans. Those patients with definite roentgenographic evidence of disease having elevated blood calcium and phosphatase levels have been treated. Eleven patients received a daily oral dose of the drug varying from 1 to 12 Gm. for from twenty to twenty-three days. Three patients received the compound by continuous intravenous drip, a dose of 0.50 Gm. per kilogram of body weight per day. The two modes of administration did not alter the expected course of the disease, nor did any clinical regression parallel the laboratory experiments.

It has been reported that several types of cancers contain abnormally high amounts of biotin. It has also been noted that the addition of biotin to diets which, in rats, prevented the development of hepatomas induced by feeding butter yellow, broke down the protection these diets afforded. These findings do not necessarily imply that biotin is required

for the initiation or growth of a neoplasm, but may suggest that if biotin is withheld from cancer patients their neoplasms might be decreased. The existence in egg white of a protein avidin which forms a complex with biotin has been known for several years. Administering it orally to rats induced a deficiency by preventing an absorption of biotin from the gastrointestinal tract. For these reasons, Rhoads and Abels, for thirty weeks, fed two patients with malignant lesions 16 to 40 times the amounts of avidin necessary to bind *in vitro* the limited amounts of biotin in their diets. There was no evidence that a biotin deficiency had been induced nor were the amounts of biotin excreted in their urine abnormally low. Likewise the clinical course of these patients was in no way affected.

It is our opinion that to date there is no constitutional agent which has been advised for the treatment of inoperable cancer that is of intrinsic or predictable value.

SUPPORTIVE MEASURES

Cancer may and often does exist in conjuction with other serious disorders. The combating of heart and kidney disease, diabetes, syphilis and tuberculosis should be as assiduous, if not more so, in the presence of cancer as it is otherwise. Quite apart from the immediate problems incident to cancer, all therapeutic measures that would constitutionally improve the patient's general physical condition should be resorted to.

Internists will differ as to the relative value of oral, hypodermic and intravenous drugs for building up the body reserve and stimulating appetite and digestion. There are numerous types of iron preparations that are satisfactory for oral administration. Intramuscular and intravenous preparations of iron and arsenic are even more effectual and stimulation of the entire body by exposure to ultraviolet light will help in supporting the patient's general physical condition. Repeated transfusions of small amounts of whole blood are indicated for their tonic and therapeutic values.

The patient suffering from incurable cancer is as eager for words of encouragement from his attending physician as he is for evidence of improvement from the actual therapy employed. While many of the measures resorted to may from the outset be doomed to failure, nevertheless, the patient is encouraged psychologically if these are carried out. Whether the benefit is physical or mental, any results obtained would justify the means.

While it may be premature to accept in entirety the claims made for the adminisration of vitamins, we have been impressed with the favorable results. In treating patients with incurable cancer, vitamin B complex, vitamins B^1 and C seem to have a definite sphere for their administration as well as vitamins A and D. The diets of these patients are vitamin-deficient because (1) the amount of food taken is small, (2) the diet is frequently liquid in character and (3) the diet lacks balance.

Special modified diets should be outlined, the nature and location of the cancer determining the form. Patients with intra-oral lesions require liquid or soft diets, permitting easier deglutition. The caloric content should be as high as possible because the pain caused by swallowing may limit the amount of food intake. The patient can increase his diet if, shortly before mealtime, the mouth and throat are lightly anesthetized by being sprayed with a weak cocaine solution. To avoid the use of cocaine, metycaine tablets of ½ grain each may be dissolved on the tongue. This local anesthetic has been found useful for the above mentioned purpose and for diminishing the pain in ulcerating oral lesions. Euphagin and Nuporal lozenges are likewise of value.

Patients with carcinoma of the esophagus with gastronomy must be maintained on a high caloric liquid diet. Cooked cereals diluted with cream, to which large amounts of carbohydrates, preferably lactose, are added, may be given with little difficulty. Milk, with the addition of glucose or lactose, powdered milk, eggs, and creamed soups may be given. One should attempt to give a diet which will approximate 3,000 to 4,000 calories. Twelve ounces of the following formula given in six feedings will give approximately 3,000 calories:

1 teaspoon salt
5 eggs
1½ quarts milk
1 cup Klim
½ cup Karo
½ cup lactose dissolved in ½ cup water
4 ounces strained spinach, peas or carrots
1 ounce salad oil

To this may be added:

4 ounces orange juice b. i. d.
3 drops vitamin A-D concentrate
3 teaspoons liver powder
1 tablespoonful brewer's yeast

This mixture is not particularly palatable but offers a concentrated diet, ample in calories, minerals and vitamins. It may be used for nasal feedings in intra-oral cancer as well as for gastrostomy or jejunostomy administration.

When the disease does not involve the gastrointestinal tract, a full maintenance diet should be given.

TREATMENT FOR NAUSEA AND VOMITING

Nausea, regurgitation and vomiting may result from excessive nasal secretion, cough, headache, metastases to the skull or brain, gastritis, gastric or intestinal obstruction, or to the absorption of toxins due to the breaking down of tumor tissue. It is evident that if certain of the organic conditions producing these symptoms cannot be eliminated, no amount of therapy will avail. However, proper elimination from the gastrointestinal tract, the insertion of a nasal tube, the frequent removal of excessive nasopharyngeal secretions, and the cleansing of necrotic wounds will always help the patient. Besides, a faulty diet, with low vitamin content, may produce these symptoms. If marked inanition is present, vitamins B_1 and C and liver concentrate should be administered hypodermically in full doses.

Absolute gastric rest is the most important means of lessening the stream of afferent stimuli affecting the vomiting center. Rest should be obtained in a horizontal position or with the feet slightly elevated above the level of the head. The mouth should be kept moist. Fluids should be administered by other channels. An antiketogenic regimen should be instituted. A very useful formula which I have used and found of value is cerium oxalate—a 10 grain powder given with 10 minims of dilute hydrochloric acid (through a drinking tube) as often as every four hours, if necessary. Teaspoonful doses of very hot or very cold, or carbonated water, ginger ale, or champagne may be given every fifteen minutes. Brandy over cracked ice may be given and prove useful when everything else has failed.

No matter how vomiting originates, acidosis induced by the starvation it produces irritates the vomiting center in the medulla and maintains a tendency to nausea and vomiting even if the original cause has subsided. Carbohydrate administration by intravenous drip is the chief remedy for this condition even in the vomiting of the diabetic in whom the carbohydrate administered should be "covered" by insulin. Alkalis are important in the presence of acidosis if much base has been lost.

TREATMENT FOR CUTANEOUS ULCERATION

The treatment for cutaneous ulcerations resulting from pathological invasion of the skin by neoplastic extension, decubitus, or prolonged and intensive radiation therapy, will often test the resourcefulness of the practitioner. Certains medicaments may prove satisfactory for a time and then seem to lose their efficacy. Besides, ulceration may be better controlled or healing at times effected if the formulas are changed frequently.

Ulcerating lesions should receive frequent, meticulous, surgical toilets, using neutral soap or any of the commercial naphtha soaps. Secondary infection plays a great role in increasing the local and general distress. When pain persists in spite of rigid antisepsis, additional measures must be undertaken for relief. Moist dressings of boric acid or potassium permanganate or azochloramid may be applied. Ointments are not as satisfactory for the reason that they tend to seal in infection and prevent proper drainage. However, certain salves containing local anesthetics may be used.

One of the modes of treatment for skin ulceration, especially in the presence of anaerobic bacteria, is the use of zinc peroxide. One must be certain that the preparation is active. The solution liberates oxygen for many hours and is an effective seal in preventing evaporation and drying.

Ulcers due to irradiation effects on the body surface or pyogenic invasion, when chronic, require the trial of many preparations to effect healing; cod-liver oil, high in vitamins A and D, is incorporated in an ointment base. The effect of applying such a salve is striking in the rapidity with which healing ensues.

Another preparation for the treatment of ulcers is Allantoin. It is a crystalline substance which stimulates healthy granulation and produces a medium apparently unfavorable to bacterial growth. Allantoin is used in 0.4 per cent aqueous solution on gauze.

A word of caution should be expressed concerning the use of any of the sulfonamides incorporated in an ointment base. They may be applied to an uncomplicated skin ulceration. Where radiation therapy has been employed and severe cutaneous reaction ensues, or where disease appears in an irradiated area, the sulfonamide seems to act as an irritant.

The skin often becomes ulcerated or macerated as a result of the discharge from fungating cancers or fistulae from viscerae. While zinc oxide ointment or lanolin has been used in the past, we find an ointment containing powdered aluminum to be most efficacious. Its use is enthusiastically recommended.

While the use of penicillin *per se* is of no value in the actual control of malignant disease, its use as a moist dressing in cutaneous ulcerating cancer may prove helpful in reducing the mixed infection in such skin complications. Its mode of application is the same as that employed for any form of superficial body infection.

PHYSICAL AND THERAPEUTIC CASTRATION FOR THE CONTROL OF INOPERABLE CANCER

Mammary cancer: More than fifty years ago Beatson observed that the rate of growth of mammary cancer might be inhibited by oophorectomy. Dresser in 1936 reported the effect of x-ray castration on the metastases to bone from carcinoma of the breast, feeling that the procedure was of value in patients who were still menstruating. Taylor agrees with Dresser that, in about one-third of the patients with recurrent or inoperable cancer, artificial menopause produces temporary regression or improvement. A recent study of this problem by the breast department at the Memorial Hospital in New York reveals that x-ray or surgical castration is of definite value in prolonging the life of patients with mammary carcinoma which has metastasized to bone. Noteworthy improvement was noted in about 15 per cent of the cases. Either surgical or x-ray castration may be employed but we are inclined to favor bilateral oophorectomy if the patient's general condition warrants the surgical attack. We view with extreme reservation Horsley's present mode of attack on mammary cancer, i. e., performing bilateral oophorectomy at the time the radical mastectomy is done. But we do feel that x-ray or surgical castration has some usefulness in palliating breast cancer metastatic to bone in women who have not reached the climacteric.

More striking in its effect is the inhibiting influence bilateral orchiectomy plays in retarding carcinoma of the male breast, both in the primary and metastatic lesions, especially the secondary deposits in bone. The writer has recently reported the effect of this procedure on 6 patients and since that time has added 4 more patients to the group. While this number is small we may make these generalizations: It has caused temporary but satisfactory regression in the primary neoplasms of 4 patients. It has caused regression and repair of the secondary deposits in bone as well as lung. The clinical regressions in this study when compared with those reported for inoperable and metastatic carcinoma of the prostate have in some cases resulted in the same dramatic cessation of pain caused by bone involvement. All patients have experienced general improvement in their physical condition.

Prostatic cancer: Toward the close of the last century White and Cabot advised castration to reduce the size of benign hypertrophied prostates. Huggins, considering these papers for the treatment of the same condition, again called attention to the subject but went further to apply it to advanced inoperable and metastatic prostatic cancer. Suffice it to say now that surgical castration seems to be a well planned, acceptable and relatively minor surgical procedure for the relief of incurable prostatic cancer. The effect seems to be fairly regularly obtained, diminishing the pain, reducing the size of the metastatic deposits and improving weight and appetite. Huggins believes surgical castration to be of greater and more prolonged benefit than endocrine castration.

Metastatic mammary cancer in bone: The influence of androgenic substances on the serum calcium of skeletal metastases from mammary cancer has been studied by Farrow and Woodard. In three cases of carcinoma of the breast metastatic to bone, injections of testosterone propionate were followed by a decided rise in the concentration of calcium in the serum and in the excretion of calcium in the urine. The chemical changes were accompanied by clinical and x-ray evidence of increased activity of the metastatic disease in the bones. In two cases of carcinoma of the breast without skeletal metastases, injections of testoserone, estrone or progesterone were not followed by significant changes in the serum calcium levels.

The ability of testosterone and estrone to cause hypercalcemia in patients with carcinoma of the breast metastatic to bone appears to be due to a stimulation by these hormones of the growth of the metastatic tumor. This in turn causes acceleration in the rate of bone destruction accompanied by a flooding of the circulation by the products of osteolysis. The evidence demonstrated here that testosterone in large doses exerts a stimulating rather than an inhibiting effect on the growth of metastatic mammary carcinoma obviously contraindicates its use in this disease. The reason why an androgenic

substance stimulates a tumor of a female reproductive organ remains obscure and merits further study.

Metastatic prostatic cancer of bone: It is believed that the results following the administration of stilbestrol are equal, if not better, than those following orchiectomy. But not all clinics are unanimous on the results. Huggins prefers surgical castration, Kearns and Dean and his associates feel that chemical castration is equally effective, thereby precluding surgical procedure. Kearns, in a recent report, noted that most surgical castrates suffered from mental depression, vasomotor disturbances and lassitude; that there were unfavorable psychic and neurologic effects. Further argument for the use of estrogens was the observation of other investigators that since castration does not bring about complete cessation of androgenic activity, this procedure, in some instances, proves inadequate or ineffective and estrogen therapy must be resorted to. Kearns advises beginning treatment with 1 mg. of diethylstilbestrol orally three times a day. This dosage is then reduced to 2 mg. daily for from two to four weeks and then 1 mg. once a day for an indefinite period. Following such therapy there was a marked decrease in pain, while there was roentgenographic evidence of bone repair. Ethinylestradiol was substituted for stilbestrol since estradiol is a natural hormone and is, therefore, less likely to produce untoward effects. As the potency of estradiol is 6 to 8 times that of stilbestrol, the dosage was regulated accordingly. Ethinylestradiol caused less breast tenderness and gastric irritation than stilbestrol. The systemic effect following such treatment has been quite dramatic, the effect on the primary and metastatic disease less so.

HYPNOTICS AND NARCOTICS

Mild hypnotics and sedatives should first be employed in minimal doses, the amount being increased when necessary. Among these drugs are the new barbiturates and barbituric acid derivatives. Phenobarbital, sodium amytal, pentobarbital sodium and seconal have been found satisfactory. The depressing action which followed the prolonged administration of the older hypnotics is less frequently observed when these newer drugs are used. Aspirin or phenacetin may be combined with caffeine for analgesic effect. When this form of medication is no longer effectual, then one may use codeine, or combine codeine with them. Finally, the opium derivatives will have to be employed.

As an advance in opiate medication, dihydromorphinone hydrochloride (Dilaudid) has now been used for over a decade. Dilaudid has been employed in place of morphine because of certain distinct advantages it possesses. It has been said to be a stronger analgesic, requiring a dose one-fifth that of morphine; it acts more quickly and is less likely to produce undesirable side effects. In therapeutic doses it has very little hypnotic action and does not affect intestinal peristalsis. When pain is to be relieved and sleep induced, some barbiturate should be added. Dilaudid, unlike morphine, has very little effect on the gastrointestinal tract and rarely is responsible for nausea, vomiting or constipation. Early cancer pain often can be relieved by a capsule containing 1/48 grain of dilaudid and 10 grains of aspirin. A solution of 1 grain of dilaudid in 6 ounces of peptenzyme elixir provides an economical and flexible solution for oral administration, the dose being 1 or 2 teaspoonsful.

In 1939 Eisleb and Schaumann introduced demerol which is (1-methyl 4-phenylpiperidine 4-carboxylic acid ethyl ester hydrochlorid). It was immediately recognized as a potent and safe analgesic, approaching morphine in effectiveness. It was found to be most valuable as an antispasmodic. The drug is not a respiratory depressant and its atropine-like effect with its sedative action makes it seem ideal for the relief from pain of visceral spasm. The dose varies between 50-100 mg. orally or parenterally.

Neither a patient nor a patient's relatives should judge the quantity of an analgesic or narcotic to be given, nor the time interval which should elapse between doses. Smaller amounts will be needed and the time interval lengthened if the medicine is given under close supervision. At times the employment of large amounts of narcotics becomes necessary and in such instances they should not be withheld.

SPECIFIC MEASURES DIRECTED TOWARD THE RELIEF OF PAIN

Nerve pain, local or generalized, is often complained of. In the absence of definite evidence of physical involvement one may suppose that the neuritis may be due to an avitaminosis. The administration of vitamin B_1 may clear up many of the symptoms.

In certain cases when cancer has encroached upon nerves, diathermy has been advised and prac-

ticed. Subjectively, at times, this form of treatment has proven beneficial.

Intravenous alcohol infusions: As early as 1927 Thurz investigated the influence of intravenous ethyl alcohol infusions upon the pain produced by inoperable malignant neoplasms. He recorded the prolonged analgesic effect following such therapeusis. The method has been used for recurrent and metastatic melanoma, mammary carcinoma, ovarian cancer and carcinoma of the vagina.

Thurz is unable to account for the analgesic effect of the alcohol. He feels that the action is twofold: The first action is directly upon the nervous system, and the second upon the growth itself. He states that, experimentally, the growth regresses in size following the intravenous administration of the alcohol; as a result, pressure on adjacent tissues, especially nerves, is reduced.

Careful blood examination and urinalysis before and during this type of medication showed no evidence of renal damage. The blood picture was unchanged.

Technic: For the infusions a 33 per cent ethyl alcohol solution (1 part absolute ethyl alcohol and 2 parts physiologic saline solution) is used. The initial dose is 1 cc. of alcohol for each kilogram of body weight. Thus, a patient weighing 50 kg. (121 lbs.) would receive 150 cc. of the solution intravenously. The medication is administered through the usual infusion set with glass trap and the rate of drip is between 30 to 40 drops per minute. The needle should contain physiologic saline solution at the time it is introduced into the vein and the alcoholic solution washed out of the needle before withdrawal. If this precaution is not observed, pain is experienced and skin damage occurs. As soon as the alcohol is introduced the patient experiences transient pain along the course of the vein. This soon disappears. If the alcohol is administered at a rate exceeding 60 drops per minute there is loss of consciousness.

The alcohol is given every third day and the amount of solution increased until 450 to 600 cc. are given at one treatment.

Response to treatment: The response following this treatment varies. Some patients become drowsy immediately and enjoy an undisturbed sleep often lasting six hours. Others become noisy, laughing or crying, and exhibit all the symptoms of an alcoholic delirium which ends in somnolence. They awake refreshed and show no ill effects from the therapy. Analgesia may be noted following the first treatment. The intravenous infusion of 33 per cent ethyl alcohol seems to be an entirely harmless procedure.

Subarachnoid alcohol injection: The injection of absolute alcohol into the subarachnoid space may be of great value in controlling the pain produced by metastasis to the lumbar vertebrae and pelvic bones from mammary and prostatic cancer, or by the pressure of recurrent or inoperable gynecological or genito-urinary neoplasms. Two cc. of absolute alcohol are injected through a lumbar puncture needle. The patient should lie on the unaffected side or the side of lesser involvement with the hips elevated. The alcohol level may be partially controlled by lowering or elevating the hips. One should not attempt anesthesia in this fashion except unilaterally, repeating the process if there are indications for the treatment of the opposite side.

Calcium therapy: In 1933 Shear reported the effects which followed the administration of large doses of calcium in metastatic carcinoma of bone and, in the same year, Behan independently advanced the reasons for the relief of cancer pain by calcium. Brunschwig in 1935 reported two striking results following its use. Ten per cent calcium gluconate was given intravenously in a dosage of 10 cc. three times a day for one month and 10 Gm. of calcium gluconate were given three times a day by mouth. After continued calcium medication roentgenograms demonstrated increased density in the damaged bone areas. The pain and discomfort were remarkably relieved.

In the writer's experience, medication with calcium must be continued indefinitely. At times, even more striking results are obtained with calcium therapy when it is combined with the administration of vitamins (A and D) and minute doses of thyroid extract. The diets of patients with incurable cancer are vitamin-deficient for several reasons: The amount of food taken is small. Besides, the diet is frequently liquid in character and lacks balance. The lack of vitamins A and D will affect bone and, if such vitamins are present in insufficient amounts in the diet, calcium metabolism will be deranged. These vtiamins may be supplied by using cod liver or halibut liver oil, plain or irradiated.

A change in calcium metabolism is also produced by ultraviolet irradiation. The increase of the serum calcium in the blood following exposure to ultraviolet rays may explain the beneficial effect of this type of irradiation on pain.

Cobra venom: Cobra venom was first scientifically employed at the Pasteur Institute where it was found useful in relieving the severe pains accompanying malignant disease. While results of the work of these investigators has been reported by Macht as being favorable, Lavedan, at the Radium Institute in Paris, using cobra venom in fifty-one cases of cancer, obtained only insignificant analgesic effects and noted no influence whatever on the growths themselves.

The usual dose of cobra venom is 5 mouse units. (A mouse unit is the quantity of cobra venom solution required to kill a white mouse weighing 22 Gm. within eighteen hours after the intraperitoneal injection of the drug). However, it is safer to use only half of an ampule (2½ mouse units). On the following day the entire contents of an ampule (1 cc.) is administered. Similar doses are injected on successive days until a definite analgesia is noted. No unfavorable sequelae have been noted. Thereafter, two or three injections per week may be utilized to keep the patient comfortable. Such therapy may be continued for months. The hypodermics should be given intramuscularly.

Very often cobra venom has been used as a last resort when all other therapeutic measures have failed. It was gratifying to find that in many instances the amounts of analgesics and narcotics were gradually reduced and the drugs finally omitted after cobra venom had been given for sufficient lengths of time to become effective. Some observers have noted an improvement in their patients' mental attitudes. Whether this is a true euphoria from the drug or merely the result of relief from pain and improvement in the general condition cannot be determined.

While all the procedures outlined have to do with the patient with incurable cancer, let us at this time point with pride to the slow but certain increase in the cure rate of all accessible cancer. Dr. M. G. Seelig has appropriately summed up the results of the current attack on the second greatest cause of death in the United States: "In these constructive labors toward the end of discovering cause or causes, the clinicians in every field and specialty of medicine have added their efforts. Studies of cancer of the cervix, lung, pancreas, stomach, tongue, breast, larynx, skin and indeed every organ of the body, have led to improvements in therapeutic technique and to a more rational concept of the initiation, development and course of malignant disease. Where we have failed in a hoped-for cure, we have often succeeded in furnishing a beneficent alleviation.

"And while all this has been going on, there has developed an infectious enthusiasm along the line of education, teaching physicians the whys and wherefores of cancer, and teaching laymen what they should know in order to protect themselves. Tumor clinics in general hospitals and in special cancer hospitals, the federal government's and many state governments' activities in the cancer field, special journals devoted to publishing cancer studies, medical society meetings devoted to cancer and various other practical agencies have been expanding the professional grasp and knowledge of cancer * * *"

In closing may I say that the care of the patient with primary or recurrent incurable neoplastic disease presents a complexity of duties for the physician and the specialist. The ever increasing number of symptoms and the persistence of these complaints for a long period of time will test the pharmacologic, mental and practical resourcefulness of everyone who comes in contact with the patient and his family. A kind heart and a clear head are required. One would do well to remember an admonishment of Carlyle: "Not to see what lies dimly at a distance, but to do what lies clearly at hand."

Now that so many drugs and procedures are available for relieving pain, no patient should reach the stage when he desires an operation in the hope that it may lead to death; nor should he be allowed to linger on in agony with his pain unrelieved. Unfortunately, it is still difficult when life may likely last for many months to counteract pain at all times; for if drugs are administered over a long period, they may eventually fail to act or may lead to demoralization which ultimately may be as distressing to the patient and his family as severe pain.

"There is no greater test of the capacity of a medical man than his ability to retain the confidence of a patient who is steadily going downhill and the management of a case of incurable cancer will tax all the tact, knowledge and skill of the ablest practitioner."

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WOMEN CANCER-CONSCIOUS

Cancer, one of the most dreaded diseases incident to mankind, took an enormous toll in Indiana this past year; in fact, it claimed the largest number of victims in the history of the state. A large insurance company states that while this is true, it also is a fact that there was a decrease of about eleven per cent in the number of deaths among its women policyholders. This would seem to bear out the contention we long have made, that women are, by far, more cancer-conscious than men. In our personal experience the very great majority of inquiries concerning cancer come from our women patients. It is hoped that the new State Board of Health setup will be able to do something about the cancer situation in Indiana—not that the previous health officials have been lax in any degree, but that at long last "Official Indiana" has become vitally interested in this and many other health problems.—J. Indiana St. Med. Assn.

DEARTH OF PSYCHIATRISTS

Some "startling facts" as to the lack of psychiatric facilities throughout the country are revealed in the 35th annual report of the National Committee for Mental Hygiene, published recently. With the assistance of the Commonwealth Fund, the Committee's Division of Rehabilitation, of which Doctor Thomas A. C. Rennie is Director, made a survey of the psychiatric resources of the country. It was found, among other things, that there are twenty-five states without a single community clinic, and there are vast areas in other states where no psychiatric help is available. . . .

The thirty neuropsychiatric hospitals operated by the Veterans Administration are in general seriously overcrowded, but the most serious deficiency has been found in outpatient treatment provided by these institutions.

It is estimated that at least 10,000 additional psychiatrists, if available, could be fully utilized in an adequate national program. Under the leadership of Doctor Rennie, an increasing number of communities are making special provisions for rehabilitation clinics by recruiting psychiatrists and social workers wherever they can be found, and grouping them in teams for rehabilitation work one or two evenings each week.

The Committee is emphatically supporting the proposal for the establishment of a national neuropsychiatric institute such as would be provided in a bill now pending in Congress.—New York Medicine.

EVALUATION OF POLIOMYELITIS*

By WARD L. OLIVER, M. D.,
Director Monongalia County Health Department
Morgantown, W. Va.

The concept and treatment of acute anterior poliomyelitis have undergone drastic changes since 1940. The chief objectives of the care of persons affected with this disease are, first, preservation of life and second, protection of nerve cells, and prevention of contractions, immobilized joints and deformities.

Etiology. It is generally conceded that the etiological factor of infantile paralysis is a filtrable virus which is an obligatory parasite, perhaps depending on energy enzymes of motor neurons for reproduction. The organisms may exist in the nasopharynx or intestinal tract without causing clinical signs of the disease. Recent investigation pointing to a specific virus as a cause of the disease includes, by means of an electron microscope, visibility of an outline that may represent the organisms, reproduction of the disease in certain strain of monkeys imported from India, and, in a few instances, active growth of the virus in human embryonic nerve tissue.

Epidemiology. Incidence of this disease usually follows a spotty pattern, in which the healthiest children of the neighborhood are stricken, often just one in a family, and the disease especially occurs after lowering of resistance which may be due to exhaustion, tonsillectomy, infectious diseases, and excessive nervous strain. Poliomyelitis usually is spread by carriers and not by direct contact. Droplet infection, clothing, food, and water probably are important etiological factors. Similarly, as pneumonia may be a complication of a common cold, paralysis, the clinical evidence of poliomyelitis, is an accident in a mass contagion of the disease. Routine typhoid fever type of isolation usually is considered adequate in preventing the spread of the disease.

Pathology. The virus of infantile paralysis is prone to affect the motor cells of the anterior gray matter of the spinal cord. However, the sympathetic nerve cells of the lateral horns of the spinal cord, medulla, cerebellum, midbrain, and the area of Broca in the cortex may be involved.

The virus affects segments of the spinal cord. It may destroy, damage, or spare selected motor cells. Destroyed cells will undergo cicatricial changes and not recover. Damaged cells may or may not recover. Since a given muscle can function on as little as 25 per cent of its normal innervation, it is important to preserve what cells are left, and then coach the muscles to function with a minimal nerve support.

Kenny Concept. To Miss Elizabeth Kenny goes the credit for increased interest and a complete reversal from physiological rest to mobilization, in the treatment of infantile paralysis. The original Kenny concept was that muscle spasm was due to direct attack by the virus which resulted in increased tone, irritability, shortening, and pain. She considered the opposed muscles not actually but apparently paralyzed because of mental alienation. Muscle incoordination was explained by immobilization of adjacent muscles resulting from shortening of original muscles. Contractures were accounted for by untreated cases. In 1944 Miss Kenny added motor denervation as another factor in her concept of the disease.

To relieve muscle spasm Miss Kenny devised a comforting type of heat. To prevent contractures she instigated early passive motion. She advocated mental awareness for mental alienation and coordination for incoordinated muscles.

Modern Concept. The present medical concept based on scientific investigations, and made possible by funds supplied by the National Foundation of Infantile Paralysis, is that destruction of anterior horn cells of the spinal cord will cause flaccid paralysis from which recovery is impossible. Damaged anterior horn cells will result in flaccid paralysis that may persist for hours or years and from which the patient may or may not recover.

Damaged internuncial cells will result in spastic paralysis from increased flow of impulses. If these cells are completely destroyed flaccid paralysis will occur.

Spasticity of muscles results in swelling, circulatory disturbances, and the accumulation of a thick mucoid exudate between the muscle fibers. If muscle spasm is not relieved early, this sticky exudate will become tough and fibrous and the end results will be shortened, non-elastic, fibrous, useless muscle.

The following table shows various stages of muscle changes and treatment of same:

	Spasm	Contraction	Contracture
Average duration	6 weeks	3 months	
Hyperirritability	Yes	No	No
Hypertonia	Yes	Yes	No
Shortening	Yes	Yes	Yes
Treatment	Hot packs	Hot packs	Stretching
	Passive motion	Stretching	Tenonectomy

*Based on observations of patients with acute and convalescent poliomyelitis at Warm Springs, Georgia, May, 1945.

Diagnosis.

1. Acute onset segmental paralysis.
2. No sensory involvement.
3. Disturbance of reflexes.
4. Characteristic spinal fluid changes.

(Definite diagnosis can be made with any three of the four cardinal symptoms above.)

Differential Diagnosis.

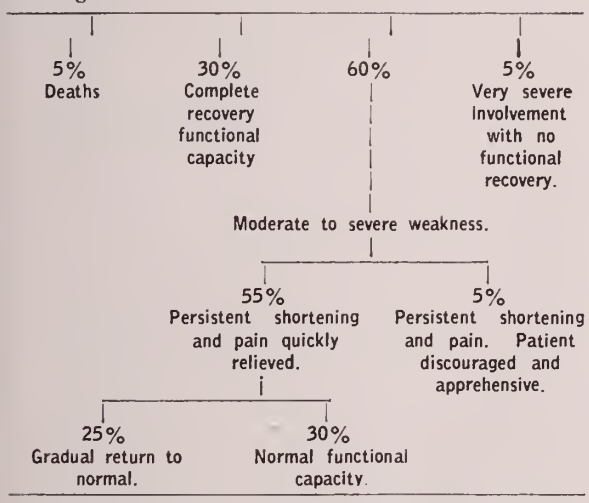
1. Neuronitis (acute polyradicularitis) (Guillan-Barre Syndrome). Gradual onset systematic weakness ending in paralysis within 3-5 weeks. Afebrile.

Usual involvement includes 7th cranial nerve. No increase cells but great increase protein in spinal fluid.

More rapid and complete recovery.

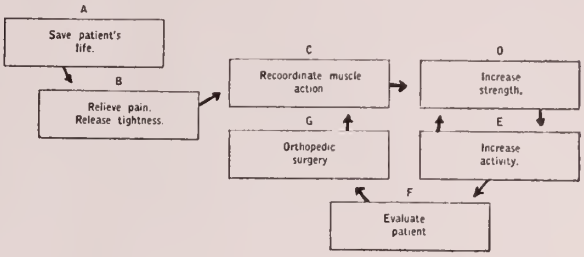
2. Meningitis.
3. Equine encephalomyelitis; complement fixation test.
4. Myelitis sensory symptoms.
5. Rheumatic fever.
6. Scurvy.

Prognosis.



Prevention. There are no known methods of preventing infantile paralysis. During an epidemic increased rest and avoidance of physical and mental exertion are important factors. Resistance is lowered by increased effort such as prolonged hikes, excessive swimming, tonsillectomies, inadequate diet, lack of rest, and minor respiratory infections. The latter should be treated by bed rest. Children should stay in their own community during an epidemic. It is usually not considered necessary to close schools or other public places.

Treatment.



The first two factors mentioned above are the responsibility of the attending physician. Only 10 per cent of patients will fail to respond to this treatment and will require further procedures.

Factors D and E are carried out concurrently. Following surgical procedure the gradual process of muscle re-education, recoordination and stretching will again have to be carried out.

Factor F is reached roughly eighteen months after the beginning of an attack.

Knowledge of causes of emergencies due to respiratory involvement is extremely important. There are four definite types of involvement that may affect the patient's life. If these are not recognized and properly treated a great deal of harm may be done to the patient.

A. Save patient's life.

Emergencies due to bulbar involvement:

1. Damage to respiratory center.
   (a) May cause instant death.
   (b) Oxygen therapy.
   (c) Artificial respiration.
2. Involvement of muscles of deglutition (accumulation of nasal and buccal mucus).
   (a) Non-use of respirator.
   (b) Postural drainage.
   (c) Suction, swab.
   (d) Intravenous feeding.
   (e) Hot packs and support if neck is rigid.

Emergencies due to spinal involvement:

1. Respiratory muscle involvement.
   (a) Gradual Onset.
   (b) Early use of iron lung.
2. Spasm of chest muscles.
   (a) Hot packs.
   (b) Respirator if hot packs do not give relief.
   (c) Sedatives if no bulbar involvement.
   (d) Oxygen if indicated.

In the above stages hot packs are necessary only to combat specific problems.

The respiratory musculature has a wide segmental innervation. The diaphragm receives its nerve supply from the phrenic nerves which originate from the second and fourth cervical segments. The accessory respiratory muscles, including the pectoralis group and sternocleidomastoid muscles, are supplied from the seventh and eighth cervical segments. It is readily understood, therefore, why there would be no sudden cessation of breathing in this type of involvement.

At first the patient will not be able to say a normal sentence without pausing to take a breath. It will be noted that he will have to stop in counting to ten and later he will talk in a monotone. With this involvement the affected nerves result in weakness of respiratory muscles and the respirator should be started early. Before placing the patient in the respirator it should be tested by stuffing pillows in the end, closing porthole, and starting the motor to determine if adequate pressure is maintained. As expiration is not involved, positive pressure valve should be kept open. After patient is placed in respirator the porthole is opened and the motor started. Patient is told to inhale as the bellows go out. As voluntary respiration is synchronized with the respirator, the operator gradually covers the porthole with his hand. A normal rate of respiration is maintained. The pressure should be kept to the minimum required for comfort and good color. Patients may be given a sedative if there is no bulbar involvement. They are instructed not to talk. Intravenous therapy, hypodermoclysis, and hot packs are possible while the patient is in the respirator.

B. Relief of pain and tightness.

1. Rest.

2. Good nursing care, orthopedic bed, hinged board between springs and mattress, foot board with blocks to make trough, pillow supports, base line position.

3. Blazing hot packs to relieve pain in order that motion can be instigated. Heavy wool insulated with rubber and another wool layer. Usualy prone pack, wrap pack, for isolated spasm. Muscle tone is normal if intrinsic link of reflex exists. Hot packs may stimulate afferent impulses through the reflex and bombard the internuncial system with resultant connections a few segments below and relief of spasm.

4. Passive motion immediately or as soon as it does not cause pain. Suggest series of about ten movements four or five times daily through a painless range of motion with gradual extension.

C. *Recoordinate muscle action.* Good or bad habit patterns may be built up with few muscle fibers, and for that reason remedial muscles must be relaxed, coordinated, and mobilized to a complete range of motion. Such deviation from normal, as the following, should be recognized early.

1. Incipient deformities such as mild scoliosis.

2. Changes of muscular-skeltal alignment.

3. Disfigurement of body contour.

Among the preventable deformities are the following:

1. Persistent muscular shortening.

2. Persistent position from faulty nursing supervision.

3. Faulty weight bearing by permitting early activities.

4. Faulty use of muscles.

D. & E. *Increase patient's strength and activity.*

F. *Evaluate patient's condition.* Consider splints, braces, corsets, girdles, or operation.

G. *Surgery.* Stabilization, muscles transplanting, fixation.

Summary. The several purposes of this resume include: (1) accurate diagnosis to prevent incipient deformities, (2) recognition of various types of respiratory disturbances, and their proper treatment, (3) emphasis on the importance of heat and passive motion during the early stages, and (4) reaffirmation of the need for stretching muscle, reeducation, and giving back to the patient all that is left in order to place him under good coordinated control if there is evidence of deformity. The modern method of treatment of poliomyelitis cannot in any way claim to cure all classes of the disease, but it is an effort to salvage all neuromuscular units not destroyed by the virus, and it is a good start toward a truly efficient therapeutic method of handling the disease.

Acknowledgment. This report on infantile paralysis is made possible by the Monongalia County Chapter and West Virginia State Chapter of the National Foundation for Infantile Paralysis and through the capable instruction of Doctor Robert L. Bennett, Director of Physical Medicine at the Warm Springs Foundation.

PSYCHOSOMATICS

When, in 1822, William Beaumont, a native of Lebanon, Connecticut, exercised his Yankee ingenuity by holding a pannikin under Saint Martin's gastric fistula and catching the drippings, he was selling the world no wooden nutmeg. He was anticipating the work that Pavlov would do later with considerable refinement in technic—Pavlov, for instance, early abandoned the use of gunfire in producing his fistulas—and he was paving the way for the conclusions that Cannon would arrive at somewhat later on the bodily changes in pain, hunger, fear and the various subsidiary emotions.

Beaumont, in other words, laid the groundwork for a scientific approach to the study of mind and matter, and the influence of the former over the latter—a reality empirically accepted and never for an instant doubted by Bishop Berkeley, the homeopaths, the mesmerists, Elisha Perkins and the followers of Mary Baker Eddy.

Except for a few ardent and credulous cults, however, and a numerically less imposing group of psychologically and scientifically minded physicians, it has required for the population at large a second world war and a popular pictorial magazine to acquaint them with the actuality of psychosomatics.

It is time for the public to tire of chasing vitamins, as a cat chases its tail, having it always with him but never catching up with it—the matter of vitamins was practically settled, as we are beginning to learn, with the discovery of food. But the psychic origin of peptic ulcer is something new over which to agonize, and the thought that a cold in the head, an attack of asthma or a cardiovascular crisis may have its inception in the imagination is, for many, a noval idea with which to toy.

We had not, as a matter of fact, entirely failed to realize that an appreciation of the power of the intellect over our more earthly functions is no new idea, regardless of the enthusiasm of the neo-psychosomatists. John Hunter proclaimed his life to be in the hands of any man who dared annoy him; followers of the cult of voodoo will lay themselves down and die if they so much as think that the witch doctors are after them; and a combat soldier in any war has known that no intestinal pathogen is necessary to produce an attack of uncontrollable diarrhea. Any radio listener, indeed, who has been unable to avoid suffering at the sound of a warbled commercial plug while waiting for his favorite commentator knows how these silly symphonies of the air may inspire in some of their hearers feelings of the blackest melancholy and, in others, those of incipient nausea.

It is something to be aware of the psychic stimuli that can erupt at the somatic level; when we can control them we may indeed know the peace that passeth understanding.—New England Journal of Medicine.

AM I SICK OR JUST DISCARDED?

In this day and age, do we not measure the degree of success in life by the amount of wealth one has accumulated through the years? If ill health, whether physical or mental, should befall one whose fortune is huge, he would then release it all, every penny of it, to regain his health. We are apt to indulge in life's comforts and pleasures at the expense of our physical or mental health. Violation of well-established laws of physical and mental hygiene may lead to personality disorganization. Emotional stability is a prize possession, more valuable than jewels. In the majority of instances, it radiates calmness, tolerance and dependability, and reflects the power to control and guard the best qualities of man; and, without it, intelligence loses a degree of its influence.

The average span of life is far too short. If we would take advantage of the proven principles of both physical and mental hygiene, life could be lengthened. Old age (geriatrics) invades our existence far too soon. The time to combat old age is in youth. Nothing is done to ward off old age until it arrives. As the result of unguarded indulgence, or undue stress, or unrelenting strain, it is not uncommon to see an individual, around three score years, "dying in the top." One out of every four persons who enter our state mental hospitals is above sixty-five years of age. Personality disorganization does not affect all of this group to such a degree that they need hospitalization in a mental institution.

We heartily endorse and approve any measure or method for the care and comfort of the aged, but we do not think an old person whose physical condition has waned to such a degree that he needs care, while his mental faculties are up to average, should be placed in a mental institution. —A. M. Lyon, M. D., in Kentucky Medical Journal.

FORMULA FOR A HEALTHY COMMUNITY

The best place to be healthy is a healthy community but healthy communities don't just happen. They're made that way by application of measures that're well known and well proven. It takes more'n a good health officer to do it. He's got to have back of him people that understand what he's trying to do and why and are wholeheartedly for it. In short, the best way to start improving conditions is to let our own lights so shine that men can see our good works and see't they are good.—Paul B. Brooks, M. D., in Health News.

FALSE BIOLOGIC REACTIONS

Considerable attention has been paid during the past few years to the recognition of the false-positive serologic reaction for syphilis in the blood and spinal fluid that has been reported from several sources in patients who apparently show no other evidence of syphilis. Recent vaccination, malarial infection, typhoid or tetanus immunization, leprosy, or, in fact, any acute febrile disorder, may cause such nonspecific false biologic reactions. They are, however, not of lasting nature and disappear after several months.—E. William Abramowitz, M. D., in N. Y. St. J. Med.

The President's Page

Physicians must be alert to proposals to change medical practice through legislation. This fact emphasizes again the reason why every physician must remain alert concerning medical economic problems, the procedure and solution of which would change the nature of medical practice. Every doctor of medicine should likewise become somewhat of a propagandist concerning medical needs, giving to patients and friends alike authoritative factual information concerning modern day American medicine and its practice. If every physician had done this, some of the present vexatious problems would not have arisen.

What is called for now is active cooperation by every doctor of medicine to propagandize his prepayment medical and hospital service plan, whether it is local or statewide. Such plans are accessible to every person in the state. The medical section of the advisory committee to the legislative interim committee on public health problems is now hard at work on a plan to make all medical, surgical, and hospital service plans uniform.

The time for thinking and talking about a national benefit plan has passed, and the time for action has arrived. There is no alternative; disinterest and procrastination may mean non-survival of professional independence.

Thomas R. Harris

President.

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STATE MEDICINE

One of the sanest discussions of the Wagner-Murray-Dingell bill that has come to our notice is the article, "A Doctor Looks at State Medicine," in a recent issue of *The Saturday Evening Post.* The author, Dr. Mary B. Spahr, a certified pediatrician of Ithaca, New York, appears to have had experience with all of what might be called the social phases of medicine, having once run a voluntary pediatric insurance plan among her own patients.

Dr. Spahr frankly admits that medicine has made advances under government auspices, citing especially quarantine, legalization of licensure, and public health education, and she might as well have added the study and development of epidemiology, of morbidity statistics, and, for that matter, general vital statistics as well. Only the blind cannot see that the federal public health service has, by and large, done an excellent job although there are some of its activities we have never been able to approve entirely. Likewise, Dr. Spahr is convinced that the authors of the bill are "sincere idealists." We believe she is correct in this judgment; in fact their enthusiasm, though sincere and ideal, is so fervent as to place them, in our judgment, in the category of zealots.

Dr. Spahr believes that sincere idealism, however, "does not dispose of certain limitations on Government health insurance which stand out in the clear light of practical experience." Among these she cites the necessity of limiting the judgment and freedom of the doctor in visiting and prescribing, calling attention to the EMIC promise to care for the sick infants of servicemen, and then stipulating that "four calls the first week and two the second constitute adequate care for any (infant's) illness." The inherent and constant conflict between good insurance demanding lowest possible cost on the one hand, and good medicine demanding the best drugs, appliances and scientific care for the patient on the other, constitutes a well-nigh fatal defect in any scheme of state sickness insurance where bureaucracy must of necessity have a large hand in administration.

The volume of "paper work" incident to State Medicine vexes Dr. Spahr also. Frankly we do not see how a system of State Medicine can be administered without this irksome enormity of paper work. We believe that the West Virginia Department of Public Assistance is doing a good job at a minimum cost, but when we get down to reporting in quadruplicate we are inclined to feel, "What's the use?" However, we realize that reports in quadruplicate are a necessity if the medical relief is to be carried on and paid for.

The costs of small illnesses, in Dr. Spahr's judgment, are the hardest to control. She found this the rock upon which her own pediatric insurance program was dashed to pieces. She selected her group of insurance patients as carefully as she could, but found that they required "more than twice as much service for comparable illnesses and similar health supervision as did (her) conventional fee-for-service clients." Needless house calls for minor complaints were a burden to her. What West Virginia mine doctor has not experienced this thousands of times! The desire to "get our money's worth," and the feeling that "we've paid for it, why not get it?" amount almost to an instinct with the American people; so much so, in fact, that, in our opinion, one of the reasons why hospital space is so scarce today is the fact that such a large percentage of our people have hospital insurance.

The lack of complete coverage is cited as a defect in S 1050. This we believe to be insurmountable. Some other plan will have to be devised to cover the indigent, the psychotic, the tuberculous, and the degenerative illness incident to advancing years.

The intrusion upon individual privacy, in violation of the Bill of Rights, is pointed out as being inherent in any scheme of State Medicine. Such an intrusion cannot, in our judgment, be divorced from any plan for government sickness insurance. This in itself, according to the author, "destroys the best in the physician-patient relationship."

Dr. Spahr makes a "constructive suggestion" which Senator Wagner might well ponder. "Federal subsidies for medical facilities in underprivileged areas and for calamitous illnesses are at least as feasible as Government payments to returned veterans for their education in privately managed colleges. Some plan by which the Government contributes to medical care without dominating it has yet to be charted. No such plan is possible without the active cooperation and support of doctors."

A final objection to S 1050, in Dr. Spahr's judgment, is lack of doctors in sufficient numbers to put the plan into execution, a very valid criticism indeed.

We commend this article to Senator Wagner and to our own readers as sane and well worth while. It has been of so much value to us that we say to the author:

"Thank you, Dr. Spahr."

HEADIN' HOME

Plans of the war department to release "by next May" seven thousand doctors now in military service have resulted in considerable agitation in Congress for more speedy demobilization, now that hostilities have ceased in the Mediterranean and the ETO. After prodding by Senator Johnson, of Colorado, Brig. Gen. Robert W. Berry promised "to do all we can" to get the doctors out of Europe as soon as possible.

That the home front is suffering from the lack of doctors cannot be denied. The members of the profession in civilian practice have been overworked for many months and the return of doctors in the military service will be welcomed in all parts of the land.

We are just wondering why something isn't also being done about the doctors long ago assigned to hospitals on the other war fronts. Can it be that the Army and Navy have forgotten our doctors who have been "buried" for two or three years in India, Burma and the deep tropics? These doctors remain for months in one location, fighting heat well over one hundred each day, as well as monsoons, hurricanes, bugs and reptiles usually found in these places.

We either read in some medical journal or were told that the British never leave a doctor in India over eighteen months without bringing him back home for a few week's rest. Certainly, our own doctors who have been on duty in these out-of-the-way places deserve a break. They insist that they want to stay until the job is done, but a few weeks at home wouldn't hurt their morale.

Everybody is thrilled that many of our own doctors in the ETO will soon be returned home, and we do not think it is too much to ask or expect that the plans of the Army and Navy be broadened so as to include as many doctors as possible on the other war fronts over the world.

ADMIRABLE SERVICE

Some relief is in sight for the nation's civilian doctors who have labored so long under severe difficulties to fill the gaps left by the departure of their colleagues for the armed forces. The army has announced that a small number of physicians and dentists will be released during the next twelve months.

The announcement, while of particular interest because it offers an easing of pressure on the home front, also serves to emphasize the excellent job that medical men and surgeons have been doing in training camps and on battlefronts throughout the world.

No men in the nation's service are making greater personal sacrifices than those of the medical and dental branches. Those who had profitable practices before the war are serving our fighting men for far less pay than they received as civilians. Furthermore, they must consider that the re-establishment of a civilian practice may be a long and arduous process. This spirit of sacrifice adds to the already magnificent record of the medical services.

Doctors and dentists who have remained at home likewise have an admirable record for unselfish service. The demands on them have been strenuous and they have worked long hours to meet their responsibilities.

The entire medical and dental professions have won the nation's respect and appreciation by their great contributions in this war.—Charleston Daily Mail.

PROTESTS BRING ACTION

According to a release from the technical division, office of the surgeon general of the Army, dated June 15, no more U. S. Army medical corps officers will be assigned to duty with the Veterans Administration unless they have previously served on the staff of that organization. Major General George F. Lull, Deputy Surgeon General of the Army, stated that in the event officers specifically request service with the Veterans Administration, they will be eligible for such assignments.

This action followed protests made through the editorial columns of the Journal of the American Medical Association, as well as objections filed by state medical associations.

Commenting on the action of the War Department, the Ohio State Medical Journal, after reporting that vigorous protests had been made by the Ohio State Medical Association, has this to say concerning the disposition of medical officers heretofore assigned to the Veterans Administration:

> If the War Department wants to make its record 100 per cent on this particular question, it should take prompt action with respect to those medical officers who have already been assigned to the Veterans Administration against their will.
>
> Such officers should be disposed of in one of two ways: They should be discharged for essential civilian practice if their services are no longer needed for military duties or they should be reassigned to duty with an Army unit. The former would seem to be the wise move as apparently these men were not needed for Army services or they would not have been assigned to the Veterans Administration in the first place.

THE BIRTH OF PHARMACY

References to the apothecary go back to the dawn of recorded history. The earliest recorded prescription dates from 3700 B. C. Directions for the preparation of prescription have been found on an Egyptian papyrus of about 3300 B. C. In another papyrus 18 centuries later mention is made of ointments, mineral and vegetable drugs. Among such unappetizing items in ancient medicine chests as swine's teeth, putrid meat, lizard's blood, etc., are opium, cassia, aloe, colchicum, henbane—in fact 18 of the 700 drugs described at that time are listed in the U. S. Pharmocopeia of today. In these early days pharmacy was a branch of medicine. In 1224 A. D., however, pharmacy was separated from medicine by official decree and was established as a separate profession. The first organized body of pharmacists originated in 1297, possessing a constitution and by-laws, and an official seal.—George F. Reddish in release from Office of Pharmacal Information.

General News

PROCEDURE CHANGED FOR REFERRAL OF NEEDY CANCER PATIENTS FOR TREATMENT

Needy cancer patients may now apply for treatment and care through county, district and city health departments. Announcement of this new procedure by Dr. Paul R. Gerhardt, director of the division of cancer control, follows the recommendations of the public health council and the cancer committee of the West Virginia State Medical Association that further case referral sources be developed.

Heretofore, all applicants have been referred through the county departments of public assistance. The new procedure should facilitate the referral of needy cancer patients. Already the facilities of the new division of cancer control have been made available to over 600 cancer patients needing assistance in planning and financing treatment and care. Broadening the referral sources does not alter in any way the procedure of clearing needy cancer cases outlined in previous issues of The Journal. The local health units, county departments of public assistance, and family physicians transmit the necessary information from which the eligibility of a needy cancer patient is determined.

Evidence must be submitted to show that there has been a diagnosis of cancer, and that the patient is unable to pay for treatment and care.

Two forms have been prepared for use in submitting this information. One, Form CA-1, is used to provide required information concerning finances. All questions must be answered and the form must be signed by the applicant and the referring agency. It must be filled out by the city, county, or district health officer or public health nurse. Applications for care may also be filed with the local department of public assistance.

Form CA-2, which is a medical report of the case, is to be filled out by the patient's physician without charge to the division. Both forms should be sent to the Division of Cancer Control, 1719 East Washington Street, Charleston, since no disposition of a case can be made until both types of information have been received.

The division will notify the patient whether the application can be accepted and will advise him where to report for treatment. A copy of the notification will be sent to the referring agency. The patient will be referred to the nearest of the twelve treatment centers in the state. The division of cancer control cannot pay transportation costs, and local resources should be utilized if the patient or the family is unable to assume this responsibility.

A letter of explanation, a copy of the referral bulletin, a supply of the physician's preliminary report forms, and lay educational material have been sent to all practicing physicians in West Virginia so that they may familiarize themselves with the program for needy cancer patients.

SCHOLARSHIPS IN PUBLIC HEALTH

The State Health Department has announced that four scholarships in public health will be offered successful applicants, who will receive nine months' postgraduate training at the School of Public Health at the University of North Carolina, leading to a degree of master of public health education. Field training for a period of three months will follow, during which applicants will receive a monthly stipend of one hundred dollars. Full travel expenses will be allowed during the period of field training.

Applicants must be college graduates, and scholarships will be awarded to those who evince a sincere desire to make public health their career. Many positions as public health educators are now available due to the rapid expansion in the field of public health in this state.

SEAL SALES EXCEED $100,000

Final figures concerning the 1944 Christmas seal sales reported by the West Virginia Tuberculosis and Health Association show that for the first time the amount received exceeds one hundred thousand dollars. The total amounted to $100,436.54. Hancock County, reporting total receipts of $3,827.49, led the state in per capita sales.

ACCEPTS MORRIS MEMORIAL POST

Dr. Paul H. Harmon, chief of the orthopedic department of the Guthrie Clinic at Robert Packer Hospital, Sayre, Pennsylvania, has been named as medical director at Morris Memorial Hospital, at Milton. According to an announcement by Mrs. Ethelyn B. Thornton, superintendent, Doctor Harmon will take over his new duties the first of August.

Doctor Harmon is a graduate of Rush Medical College, Chicago. He served as an instructor in orthopedic surgery at the University of Chicago, 1935-37. He was director and chief surgeon of the state-federal crippled children's program in Illinois, 1937-40. He has done research work in infantile paralysis, and has written many articles on infantile paralysis and on subjects pertaining to orthopedics.

DR. R. J. WILKINSON HONORED

Dr. R. J. Wilkinson, of Huntington, was elected vice president of the Alumni Association of the Medical College of Virginia at the annual meeting held at Richmond, June 16.

NEW DIIRECTOR OF TB BUREAU

Dr. Robert L. Smith, P. A. Surgeon, USPHS, has been appointed by Dr. J. E. Offner, state health commissioner, as acting director of the bureau of tuberculosis to succeed Dr. J. T. Duncan, resigned.

Doctor Smith, who has been assistant director of the bureau since April, was connected with the division of tuberculosis control of the USPHS at Bethesda, Maryland, for two years before coming to West Virginia. He recently completed a course in the school of public health at the University of Michigan.

TUBERCULOSIS COMMITTEE NAMED

Dr. David Salkin, superintendent of Hopemont Sanitarium, has been named by Dr. Thomas L. Harris, president of the West Virginia State Medical Association, as chairman of the new tuberculosis committee created by the House of Delegates at the annual meeting at Clarksburg in May. Besides Doctor Salkin, the committee is composed of Drs. E. T. Goff, Parkersburg; J. N. Reeves, Charleston; G. E. Gwinn, Beckley; and Elizabeth McFetridge, Shepherdstown.

Dr. Wade H. St. Clair, of Bluefield, heads the new committee on relocation and reestablishment of doctors returning from military service. The committee will cooperate with the American Medical Association's Bureau of Information in aiding returning medical officers in their educational, licensure, and placement problems. Other members of the committee named by Doctor Harris are Drs. J. P. McMullen, Wellsburg; Ben I. Golden, Elkins; T. Kerr Laird, Montgomery; E. C. Hartman, Parkersburg; and Hugh A. Bailey, Charleston.

STATE HEALTH DIVISIONS MOVE

For the first time in the history of the state health department, a reference and lending library has been established in the bureau of public health education in line with similar action taken by the health departments of many other states. For the present, the library will be maintained for the use of the personnel of the state health department, but eventually it is planned to make the facilities available to the doctors in West Virginia.

Several divisions and bureaus of the state health department have moved to downtown Charleston to provide space for expanding agencies left at the Capitol. Twelve rooms have been rented in the Virginia Land Bank Building at the corner of Capitol and the Boulevard to house the bureau of venereal diseases, division of communicable diseases, bureau of industrial hygiene, division of maternal and child hygiene, the nutrition consultant, and the midwife consultant.

The division of industrial hygiene remains at 1584 E. Washington street, while the bureau of tuberculosis has been moved to 1719 Washington street. The division of public health education is now located at 300½ Duffy street, having been moved from the Capitol to provide more room for the division of vital statistics, the bureau of county health work and the division of finance.

EDUCATIONAL CONSULTANT APPOINTED

Miss Anne Rouse, of New Martinsville, has been appointed educational-social consultant in the division of cancer control to succeed Mrs. Miriam P. Hart, who resigned to continue graduate study at Smith College.

Miss Rouse, who has had graduate study at the University of Pittsburgh and Columbia University, was formerly a member of the supervisory staff of the division of child welfare, department of public assistance, and has recently been connected with the National Travelers' Aid in New York City.

PHC APPROVES APPOINTMENT OF CITY AND COUNTY HEALTH OFFICERS

The Public Health Council has approved the appointment of the following doctors as county, district and city full-time and part-time health officers for full four-year terms, effective July 1, 1945:

FULL-TIME: Berkeley, G. P. Morison (part-time), Martinsburg; Boone, R. L. Hunter, Madison; Brooke, C. R. Megahan (part-time), Wellsburg; Hancock, Thomas H. Bruce (in armed forces), New Cumberland, Leonard O. Schwartz (acting), New Cumberland.

Harrison, A. J. Kemper, Clarksburg; Kanawha, E. W. Langs (USPHS), Charleston; Marshall, W. G. C. Hill, Moundsville; Monongalia, Ward L. Oliver (USPHS), Morgantown; Preston, C. Y. Moser, Kingwood.

Raleigh, W. W. Hume, Beckley; Wetzel, M. A. Viggiano, New Martinsville; Wood, C. E. Morehead (part-time), Parkersburg.

PART-TIME: Barbour, W. Scott Smith, Philippi; Braxton, M. T. Morrison, Sutton; Cabell, Raymond H. Curry, Barboursville; Calhoun, J. A. Morford, Grantsville; Clay, A. A. Smith, Clay.

Doddridge, A. Poole, West Union; Greenbrier, A. E. LaHew, Lewisburg; Hampshire, R. W. Dailey, Jr., Romney; Jefferson, G. P. Morison, Charles Town; Lincoln, G. W. Walden, West Hamlin.

Mason, Frank C. Long, Point Pleasant; McDowell, J. A. Bennett, Northfork; Mercer, Uriah Vermillion, Athens; Mineral, James A. Newcome, Keyser; Mingo, S. G. Zando, Williamson.

Monroe, J. R. Richardson, Union; Nicholas, Eugene S. Brown, Summersville; Pendleton, O. F. Mitchell, Franklin; Pleasants, H. B. Young, St. Marys; Pocahontas, Harry C. Solter, Marlinton.

Randolph, P. L. Gray, Elkins; Ritchie, James P. Jones, Pennsboro; Summers, J. W. Stokes, Hinton; Taylor, R. D. Stout, Grafton; Tucker, Frank K. Lyon, Parsons.

Upshur, J. C. McCoy, Buckhannon; Wayne, W. J. Porter, Wayne; Wirt, O. W. Coplin, Elizabeth; Wyoming, Ward Wylie, Mullens.

HEALTH DISTRICTS: District No. 4, W. J. Riley, Weston; District No. 5, C. A. Thomas, Romney.

CITY HEALTH OFFICERS: C. F. Mahood, Alderson; E. M. Hamilton, Belington; R. V. Shirley, Ceredo; G. P. Morison, Charles Town; H. K. Owens, Elkins.

O. F. Mitchell, Franklin; R. D. Stout, Grafton; R. M. Wylie, Huntington; E. A. Courrier, Keyser; F. C. Goodall, Matoaka.

B. L. Liggett, Mill Creek; G. P. Morison, Ranson; A. G. Lanham, Ronceverte; J. W. Gilmore, Wheeling.

BULLETIN FOR MEDICAL OFFICERS

The Bureau of Information of the American Medical Association has prepared an informaiton bulletin for returning medical officers in which there is printed a concise statement of facilities now available to help them with their problems of licensure, further education, and relocation.

This bulletin is now available for distribution and copies may be obtained without charge from Lt. Col. Robert D. Bickel (MC), Bureau of Information, 535 North Dearborn Street, Chicago, Illinois.

LICENSE REVOKED BY PHC

The license of Dr. Ballard R. Gibson, of Omar, has been revoked by the Public Health Council on the grounds that credentials presented from the State of Tennessee for the procurement of licensure in West Virginia by reciprocity were fraudulent, and that the certificate of premedical education at Pikeville (Kentucky) College was likewise fraudulent. Doctor Gibson was formerly located at McAndrews, Kentucky.

No personal appearance was made by Dr. Gibson. Instead, he addressed a letter to the public health council in which he stated that he was resigning as physician for a coal company at Omar, effective June 29. He stated further that if the public health council felt that he was not entitled to a license, he would surrender it. Evidence was presented before the body in the form of an affidavit from the secretary of the Tennessee State Board of Medical Examiners to the effect that Dr. Gibson had never been licensed in that state. An affidavit from the registrar of Pikeville (Kentucky) College set forth the fact that the certificate of premedical education presented by Dr. Gibson was likewise fraudulent.

NEW MATERNAL AND CHILD HYGIENE HEAD

Dr. Glenn A. Carmichael, of Butte, Montana, has been appointed by Dr. J. E. Offner, state health commissioner, as director of the division of maternal and child hygiene. He succeeds Dr. Lenore Patrick Chipman, who resigned several months ago to engage in private practice at Williamstown, Ky.

Dr. Carmichael is a graduate of the University of Michigan School of Medicine, where he was an instructor from 1928 to 1933. He has practiced his specialty of obstetrics and gynecology at Butte for the past 12 years. He is a member of the American Board of Obstetrics and Gynecology, the American College of Surgeons, the Central Association of Obstetricians and Gynecologists, and the American Medical Association.

Dr. Norman G. Angstadt, director of county health work, has been acting director of the division of maternal and child hygiene since Dr. Patrick moved to Kentucky.

OVER 8,500 EMIC CASES

Maternity cases completed under the Emergency Medical and Infant Care program in West Virginia since its inauguration on May 12, 1943, to July 19, 1945, total 7,661. Of this total number, 2,862 have been completed during the present year.

West Virginia doctors participating in the program have been paid a total of $325,638.10, while hospitals have received $235,425.49. This is an average of $73.24 per maternity case.

The figures compiled by Dr. N. G. Angstadt, acting director of the division of maternal and child hygiene, also show that 904 infant cases have been completed during the same period. For this service, West Virginia doctors have received $10,862.50, and the hospitals $21,865.68, or an average of $36.01 per case.

All funds used in the EMIC program are supplied by the government.

DR. HARRY GARRISON RESIGNS

Dr. Harry A. Garrison, superintendent of Weston State Hospital (mental), resigned effective July 1, and Dr. H. O. Van Tromp, of French Creek, has been named as acting superintendent. Dr. Van Tromp has been connected with the institution for 12 years and has been serving as clinical director.

Doctor Garrison, originally from Morgantown, is a retired captain in the medical corps of the U. S. Navy. He was appointed by Governor Neely as superintendent of the Spencer State Hospital in 1942, and was transferred to the Weston hospital August 1, 1943, succeeding Dr. John E. Offner, who resigned to accept appointment as state health commissioner.

LICENSED BY RECIPROCITY

The Public Health Council has licensed the following doctors by reciprocity as a result of the examination held in Charleston, July 5-7, 1945: Edward Gliserman, Eccles; Clifford Folson Gryte, Bluefield; Harold Hunter Kuhn, Charleston; Walter Hal Shealy, Shepherdstown; Paul DeLaine Snedegar, Elkins; and, Catherine Ruth Stoeckel, Charleston.

STATE DRUGGISTS RECEIVE CITATIONS

Two Shinnston druggists, George Rice and Arch W. Tetrick, have received AMERICAN DRUGGIST citations for outstanding community service. Each turned over his drug store and equipment to rescue squads for first aid and relief work in connection with the tornado which swept that area June 23, 1944, and resulted in over seventy deaths.

The citation is awarded by this national journal of the drug industry to pharmacists "who, through their unselfish attention to civic affairs have contributed to the betterment of their community's social and civic life." Inaugurated in 1944, the award has so far been given to thirty pharmacists.

MEETING OF ACPM CANCELLED

The annual scientific and clinical session of the American Congress of Physical Medicine, scheduled for New York City, September 5-8, has been canceled.

CANCER FUND DRIVE NETS $30,000

At a meeting of the executive committee of the West Virginia Division of the Field Army of the American Cancer Society, held at Charleston June 28, it was ordered that all applications for funds for treatment of indigent patients must be cleared through Dr. Paul R. Gerhardt, director of the division of cancer control of the state health department.

Announcement was made at this meeting by Mrs. John S. Harvey, State Commander, that incomplete returns show that the annual drive in West Virginia for funds for cancer control has netted about $30,000, as compared with approximately $12,000 in 1944.

DOCTORS RECOMMEND CREATION OF NEW HEALTH DEPARTMENT DIVISION

The eight doctors appointed several weeks ago by Governor Clarence W. Meadows as members of the advisory committee created under the provisions of H. C. R. 4 have unanimously recommended to the legislative interim committee that existing non-profit medical and hospital service plans be expanded and new plans developed so as to make medical and hospital care available to people residing in every part of West Virginia. This plan was recommended in preference to a statewide plan. At the present time there are ten hospital service plans and nine medical service plans in operation in this state.

The group unanimously recommended that a division of medical and hospital service be created in the state health department under the supervision of a director, who would have the assistance of an advisory committee appointed by the Governor, composed of two representatives each from the West Virginia State Medical Association, the Hospital Association of West Virginia, non-profit hospital service plans operating in West Virginia, and the public.

Dr. R. J. Wilkinson, of Huntington, chairman of the group, submitted the report to the advisory committee.

GOVERNOR ENLARGES COMMITTEE

Executive action with reference to the composition of the advisory committee to the legislative interim committee studying public health problems was completed late in July when Governor Clarence W. Meadows named several business and professional men and women as members of this group.

Representatives of professional organizations include Roy Bird Cook, of Charleston, State Pharmaceutical Association; Dr. Hu C. Myers, Philippi, Hospital Association of West Virginia; Miss Martha Wooddell, R. N., Clarksburg, State Nurses Association; Dr. N. H. Baker, D. D. S., Charleston, State Dental Society; Dr. Robert R. Thomas, D. O., Huntington, West Virginia Osteopathic Society; Dr. Robert A. Koch, Charleston, State Optometric Association; and Dr. A. D. Belton, Beckley, West Virginia Medical Society.

The Hospital and Medical Service plans operating in the state are represented by John Hart, of Charleston, manager of Hospital Service, Inc.

Dr. William R. Laird, of Montgomery, was appointed as the governor's personal representative in the field of medicine.

Henderson Peebles, of Charleston, will represent business and Mrs. D. W. Stubblefield, of Charleston, the public-at-large. Labor representatives include John B. Easton, of Charleston, C. I. O.; Volney Andrews, Charleston, A. F. L., and George J. Titler, Beckley, United Mine Workers of America. H. B. Crow, of Weirton, is the industrial representative, and John J. Foster, of Holden, was named for mines and mining. O. W. Van Petten, of Charleston, will represent the oil and gas industry.

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SILICOSIS - ITS PREVENTION AND TREATMENT*

By D. A. MacGREGOR, M. D., Wheeling, West Virginia**

We all like to think of the air we breath as free and pure. We feel a certain mental, if not physical, depression those foggy days in the Ohio Valley when visibility is almost zero on account of the mist, dust, and smoke in the atmosphere. Of course there are no serious physical consequences arising as a result of breathing this heavily laden air. As a matter of fact, the respiratory organs of man are very well adapted to the protection of the lungs from the inhalation of dust particles. We have all been fascinated by watching the dance of the myriad of dust particles in a sunbeam piercing a darkened room. The air we breathe is never pure, but the dust particles in ordinary concentration are largely eliminated before they reach the lungs as the inspired air passes along its circuitous route over the ciliated mucous membranes of the nose and the moist lining of the pharynx. It is only in the very dusty occupations of mankind that large quantities of dust penetrate to the alveoli of the lungs. Fortunately the great majority of dust particles which reach the lungs are harmless, and most of them are eventually expectorated or engulfed by the phagocytes with no very serious results.

Unfortunately there is one particular dust which is quite common and which does produce a very harmful reaction in the lungs. That particular dust is derived from silicon dioxide which is found very abundantly in nature in sand, quartz, and similar formations. Man is exposed to heavy concentrations of silicious dust in many different occupations —mining, particularly hard rock mining, quarry work, and blasting, underground excavations, the preparation of silica-containing powders, sand soap, etc.

Medicine has given a descriptive name to the condition in which the lungs are heavily laden with dust particles. It is called pneumoconiosis; pneumon meaning lung, konia meaning dust, and the suffix, osis, indicating a formation or condition. Pneumonoconiosis is a general term but many other specific terms have arisen from it. Silicosis indicates the presence of silica dust in the lungs. Anthracosis is the term used for coal dust. Asbestosis has been coined for the workers in asbestos and numerous similar terms are in common usage.

My attention was first focused upon the great tragedy of silicosis when I listened to a story by a friend of mine who had spent several months traveling in Africa and, while there, had visited the gold and diamond mines. He told me that the manual labor at the mines was done almost entirely by the native blacks who entered into a contract with the company to live within a fenced-in compound about the entrance to the mines for a period of two years. To prevent theft a very careful physical examination of the miner was made when it came time for him to leave the compound. Food, lodging, and clothing were supplied to the miners and also medical care for those who fell ill.

At the time my friend visited one particular mine he saw several miners suffering from advanced silicosis. These men were carried out on cots into the sunshine during the day and back into their lodging at night. They were extremely weak and

*Presented before the Academy of Medicine of Parkersburg, at Parkersburg, February 1, 1945.

**From the Medical Department of the Wheeling Clinic, Wheeling, West Virginia.

short of breath on the slightest exertion. If one of them sat up in bed or even turned over he would breath heavily for some time afterwards. For that reason most of them lay perfectly still except when disturbed by fits of coughing. Lying there in the sunshine they seemed more dead than alive. That was twenty years ago. I have been told that conditions have not changed materially since that time. It has taken a long time for scientists to discover a plausible explanation for the fact that silica dust is so much more harmful than the other dusts to which man is commonly exposed. In the last decade we have acquired quite a bit of information about silicosis and along with that knowledge we are slowly evolving methods for its prevention and treatment.

DIAGNOSIS

The diagnosis of silicosis is based upon occupational and medical history, physical examination, and X-ray study. Before a case can be classified as silicosis we must know that the patient has been exposed to silica-bearing dust over an extended period of time. To be quite accurate dust counts should be made at the site of his occupation and the proportion of silica present in the dust should be accurately estimated. Furthermore, it is necessary for us to know the size of the dust particles. Large particles of silica are heavy. They settle out quickly and rarely reach the alveoli of the lungs. It is the fine dust, made up of silica particles measuring five micra or less in length which cause the damage in silicosis.

To refresh your memory a micron is one millionth part of a meter. The average red blood cell is about six to nine micra in diameter. If the concentration of silica dust in fine particles is extremely heavy, as it was in the case of the Gauley Bridge tunnel catastrophe, severe and even fatal silicosis can develop in less than one year. If the concentration of silica dust is light, as it is in certain hard rock mines where precautions are taken to reduce the dust hazard to a minimum, miners may work for fifteen or twenty years before developing serious symptoms of silicosis.

In taking the medical history of a suspected case of silicosis we inquire for certain cardinal symptoms which in themselves are not specific but which are very significant when accompanied by a definite occupational history of exposure. Cough is most frequently present and it occurs at all times of the day but particularly in the early morning and at night. It is aggravated by exercise. Shortness of breath is usually the first symptom of which complaint is made because it interferes with work. Tightness in the chest nearly always accompanies the two symptoms just mentioned when the patient's symptoms are due to silicosis. In the advanced cases weakness is pronounced and it is aggravated by the very fact that exercise is prohibited by the patient's other symptoms. Likewise, in the advanced cases the shortness of breath becomes asthmatic in character. It sometimes happens that a patient is considered to have asthma when his underlying silicosis is not suspected. Loss of weight, fever, and night sweats are not usually prominent in the medical history unless or until infection, usually tuberculosis, is superimposed upon silicosis.

The physical examination of the chest does not usually reveal anything of significance in the earlier stages of the disease. Changes in auscultation and percussion are observed with extensive consolidations or when cavities develop as the result of tuberculosis. Perhaps the most important part of a physical examination of a suspected silicotic is the estimation of the ventilating capacity of his lungs. The response of pulse and respiration to exercise is very significant and the estimation of the vital capacity of his lungs is very important. Disability in silicosis is due to inadequate oxygen supply, the result of thickening and rigidity of the pulmonary alveolar walls, edema of the air sacs and terminal bronchioles and engorgement of the capillaries surrounding these structures. For this reason the impairment of function of the lungs in the pulmonary fibrosis of chronic silicosis is measured most accurately by respiratory function tests.

The X-ray examination of a patient suspected of having silicosis usually offers the most striking and convincing evidence to confirm or deny the suspicion. However, it should be stated emphatically that a diagnosis of silicosis cannot and should not be made upon X-ray alone. The X-ray findings should be correlated with the occupational history, the medical history, and physical examinations. As a matter of fact, it might be maintained that the only infallible proof of silicosis is the demonstration of a considerable amount of silica in the lung tissues at autopsy.

It has long been recognized that silicosis produces an increased density throughout the lung fields as shown by the X-ray. The various stages in the development of chronic silicosis present different but progressive pictures of the development of the disease. In the early stage the findings are not specific. The hilar shadows are increased and

radiating lines of increased density extend throughout the lung fields. Somewhat later we have the nodular stage in which multiple small nodules of varying size, usually distributed uniformly, are strikingly characteristic of silicosis. The picture changes somewhat as the case progresses. There may be a diffuse fibrosis in which the findings become more marked at the inner zone of the lungs and less so at the periphery. Finally there appears the coalescent stage in which the lesions, increased in size, fuse together in large, dense plaques. They usually occupy the middle portions of the lungs and the findings are bilateral. By the time extensive fibrotic changes have developed the amount of good, usable lung space has been so diminished that nature attempts to compensate by distending the remaining elastic portions of the lungs beyond their normal capacity, and this produces the condition we call emphysema. Finally we may have tuberculosis superimposed upon the lung which is impaired by silicosis. It is very common. Latent foci of tuberculosis may light up or a fresh infection may be accidentally acquired. In any case the silicotic lung offers little resistance to tuberculosis. In a large percentage of silicotics the immediate cause of death is tuberculosis.

This outline of the development of the various stages of silicosis, as shown by X-ray, is reasonably accurate for the chronic cases which require years of exposure for their development. It is interesting to note that those cases of acute, rapidly developing, and fatal silicosis in which the patient has been exposed to a heavy concentration of very fine dust over a period of a few months do not present the rather clear-cut X-ray picture described above. On the contrary the X-ray pictures taken in these very tragic cases show a diffuse haze or cloudiness involving both lung fields which tends to obscure the normal markings. Sometimes within this general haze there are more definite localized patches of actual consolidation. Sometimes fine lines are discernible through the haze but there is no characteristic pattern of the film. None of the supposedly characteristic nodules are to be seen. It would seem that nature, overwhelmed by the large quantity of fine silicious dust, has not been able to set up the usual routine methods of defense and repair but instead we see the evidence of a very diffuse inflammatory reaction.

In most of the states where we have compensation laws applicable to occupational diseases silicosis has been defined as it was originally recognized by the Industrial Hygiene Committee of America. That definition is as follows: "A disease due to the breathing of air containing silica, characterized anatomically by generalized fibrotic changes and the development of miliary nodulation in both lungs; clinically by shortness of breath, decreased chest expansion, lessened capacity for work, absence of fever, increased susceptibility to tuberculosis (some or all of whose symptoms may be present), and by characteristic roentgen ray findings." Here is tragedy. Many of the men who developed acute silicosis while working in the Gauley Bridge tunnel did not present the X-ray appearance set forth in the legal definition. As a matter of fact, on autopsy the lungs, while containing silica, did not present the pathological appearance which would correspond with what would be expected in the light of that definition. Even though there is no reasonable doubt that these men died as a result of acute silicosis, the legal definition of the disease prevented their families from receiving compensation which they rightfully deserved.

I have referred to the Gauley Bridge incident because it occurred in our own state. There have been many other instances in which acute silicosis has been acquired and in which the typical X-ray picture of chronic silicosis was absent. For instance, there is the case reported by Chapman in 1932 of a sandsoap worker who was exposed to great quantities of silica dust and died of symptoms of acute silicosis, and yet at autopsy his lungs did not present the so-called characteristic lesions of the disease.

PATHOLOGY

It is interesting and important to consider what happens to dust particles which reach the alveoli of the lungs. Those particles which do not penetrate deeply into the lungs and become entangled in mucous secretions along the air passages may be expectorated within a reasonably short time. On the other hand, those fine particles, which penetrate deeply, set up a foreign body reaction on the walls of the alveoli. The endothelial leucocytes, scavengers of the human body, pass between the cells of the lining membrane of the alveoli and engulf the foreign bodies. Loaded down with dust particles these phagocytes, unless they are expectorated, retrace their course and eventually reach the lymph channels in the stroma of the lungs.

It appears that there are two distinct classifications of these dust particles. The first group is inert and innocuous. The second group is irritating and toxic. The phagocytes which carry the inert dust particles either lodge in the lymph glands at the hilum of

the lungs or pass into the larger lymph channels and eventually into the circulation. No great amount of harm is done to the organism in this process even though the amount of dust collected over a period of many years may be sufficient to make the lungs almost coal black at autopsy. On the other hand, the phagocytes which carry the toxic dust particles, such as silicon dioxide, appear to be poisoned by the load they carry. They do not survive to carry their load through the natural channels to a safe depository.

Many of these endothelial leucocytes die in the smaller lymph channels and an accumulation of their bodies serves to dam the natural flow of lymph. Inflammatory reaction about them causes a congestion in the capillary blood system as well. As the leucocytes disintegrate they lose their nuclei, and the layers of collagen are deposited in whorls around their place in interment. It is the formation of these whorls that leads to the appearance of multiple nodules in the typical X-ray picture. In this slow going inflammatory process the tissues of the lungs become studded with these nodules and the amount of fibrous tissue throughout the lungs is greatly increased. All of this pathological process takes place at the expense of the elasticity of the lungs. There is a marked encroachment on the vital air capacity of the lungs. Even though the air-containing portions of the lungs are distended by vigorous efforts of inspiration the elasticity of the organ has been so greatly reduced that adequate to and fro ventilation for working activity is not available. This lack of elasticity is the primary cause of disability in silicosis.

PREVENTION

Our Canadian friends have contributed the lion's share in the recent development of our knowledge pertaining to the prevention and treatment of silicosis. In 1926 silicosis became a compensable disease in the Province of Ontario under the Workmen's Compensation Act. Since that time many of our states have made it a compensable disease. West Virginia and also our two neighboring states, Ohio and Pennsylvania, have passed fairly good legislation with respect to the compensation of silicosis. It is unfortunate that in each one of the three states the erroneous descriptive definition of silicosis laid down by the Industrial Hygiene Committee has been incorporated in the law so that in its liberal interpretation it does not cover those very acute cases of silicosis in which nodule formation is absent.

It is obvious that the first consideration in the prevention of silicosis is the attempt to eliminate as much of the silica-bearing dust as possible from the air workmen breathe. To that end numerous mechanical devices are in use. For instance, where it is practicable, wet drilling has been substituted for dry drilling. Fans have been installed to withdraw as much of the dust-laden air as possible. In many places respirators are provided for the workmen but it is common knowledge that it is very difficult to persuade workmen to wear respirators regularly. We cannot be too emphatic in stating that the most important consideration in the prevention of silicosis is the elimination of as much of the silica-bearing dust as possible by mechanical means. Even with the best mechanical equipment and modern mining methods it is obvious that the hazard cannot be eliminated. For that reason, at the suggestion of the late Sir Frederick Banting of insulin fame, an experimental investigation was undertaken about twelve years ago at the McIntyre-Porcupine Mines of Ontario, Canada. The results of that investigation were published by Denny, Robson, and Irwin in 1937 and amplified by another report in 1939. On these two reports is based the modern medical conception of the proper methods of prevention and treatment of silicosis.

CHEMISTRY

No doubt it has occurred to everyone who has considered the subject to inquire why it is the silica dust particles are so very harmful when they are taken into the lungs whereas most of the other dust particles are relatively harmless. I had the naive idea that the silica particles in crystalline form had very sharp points and were therefore more irritating than other dust particles. Of course the explanation was not so simple. The physiologist suggested that it was probably a chemical irritation rather than a mechanical irritation and that silicon dioxide in the presence of body tissues might be converted very slowly into silicic acid.

Working on the assumption that silicic acid is the real cause of the irritating phenomenon manifested in the lungs, the experimenters set about to try to find something which would prevent the solution of silicon dioxide and the development of silicic acid. The technical experts maintain that the point of toxicity lies midway between the solid silicon dioxide and the liquid silicic acid, that is, in the unassociated silicic acid. After much experimentation Denny and Robson, in 1936, discovered that small amounts of aluminum powder completely inhibited the solu-

tion of silicon dioxide in vitro. Still further investigation developed the fact that this action was due to the coating of the silica particles with a thin film of gelatinous hydrated alumina. The presence of this absorbed layer of alumina on the surface of the silica can be demonstrated microscopically by staining the specimen with a certain gold salt which clearly differentiates the two substances.

ANIMAL EXPERIMENTATION

Having discovered a means of preventing the solution of silicious material in a test tube, the next step was to determine whether or not this discovery had practical possibilities in vivo.

Experimental animals, living in closed cages and supplied with air containing silicia dust in fine particles, developed silicosis in a minimum of six months. Some were more resistant than others but all of them developed the disease. Other groups of animals were required to live under similar conditions but fine aluminum dust in varying percentages was added to the silica dust in their air supply.

It was discovered that the addition of so little a quantity as 1 per cent of aluminum dust to the silica-laden air was sufficient to prevent the development of silicosis in the experimental animal. As with silica the best results were obtained with aluminum in particle size of less than five micra.

These experiments were carried on for a period of nearly two years. To be exact it was found that powdered aluminum prevented the development of silicosis for the duration of the experiment, a period of twenty-two months, whereas all of the control animals, who breathed air containing the same amount of silica but no aluminum, acquired the disease and many of them died. Furthermore, another set of experiments showed that the animals could be protected against silicosis if the silica dust were inhaled at one time and the aluminum dust at another. It was proven that it was not necessary to inhale both the silica and the aluminum at the same time in order to protect the animal against experimental silicosis. Having thus established the facts that the inhalation of finely powdered aluminum prevents the development of silicosis in experimental animals and that the inhalation of aluminum dust in the necessary concentration is not harmful, the next step was to determine the applicability of this knowledge to man.

PREVENTIVE TREATMENT FOR WORKERS

The McIntyre-Porcupine Mines, having established and financed a research department devoted to the study of silicosis, became pioneers in the attempt to protect exposed workmen by the routine administration of aluminum powder. I think it would be interesting to tell something about the manner in which they have finally determined to make aluminum available to their workmen.

It was first thought that the aluminum dust might be liberated where the men worked in the mines. Arrangements were contemplated whereby dust blowers could be made available for certain groups of workers. Another plan was to have aluminum dust liberated by the drilling machines. Another idea was to have the aluminum dust liberated into the atmosphere when the miners set off explosive charges. None of these ideas was very practical. To get the best results it seemed necessary to have the miners breathe the aluminum dust in a relatively heavy concentration which could be measured and which would be approximately the same from day to day. For that purpose it seemed best to use a closed room in which the miners would be exposed to a definite concentration of aluminum for a definite period of time. The whole plan and theory was discussed with the miners and the steps taken by the company met with the miners' approval and cooperation.

When the miners go to work they enter a change room where they take off their street clothes and don their working clothes. When they come out of the mines they go to this same room, take off their working clothes, enjoy a shower bath, and then put on their street clothes. This change room seemed to be the logical place for the administration of the aluminum dust. It was decided that the best time to give the treatment would be when each shift of miners came into the change room to get ready to go to work. It is a trait of human nature to dawdle just a little when changing clothes to go to work. A man is much more likely to be in a hurry when he is cleaning up to go home after the day's work is done. Furthermore, the outgoing shift of miners uses the showers and the presence of a great deal of moisture in the atmosphere would tend to precipitate at least a part of the aluminum dust which it contained. Therefore it was decided to give the aluminum treatment to the miners for five or ten minutes when they entered the change room to go to work.

PREPARATION OF ALUMINUM DUST

At this point it might be interesting to take up the manner in which fine, fresh aluminum dust is prepared both for the experimental animal and for its use in the protection of the miners. The size

of the mill will be determined by the amount of aluminum dust required, but the principle of its construction is the same for all sizes. It is essentially a hollow, metal cylinder which revolves upon a hollow metal shaft which has numerous perforations along that portion which is within the cylinder. There is a partition at the midpoint of the shaft so that air cannot be blown straight through the hollow shaft from one end to the other. If air is blown in at one end, it comes out into the hollow cylinder through the perforations in the shaft which are on the near side of the end. It is therefore evident that air which goes in one end of the shaft will circulate in the cylinder before it goes out the other end.

A charge of small aluminum pellets about three-sixteenths of an inch in diameter is placed in the metal cylinder and then the cylinder is rotated at a speed of about eighty revolutions per minute by an electric motor. In a mill about twelve inches long and twelve inches in diameter a charge of about twenty-five pounds of aluminum pellets is used together with a little aluminum dust as a primer. The whole outfit is properly grounded and also enclosed in a wooden case to eliminate as much noise as possible. One end of the shaft is left open for the ingress of air. The other end of the shaft is connected with a large glass bottle which serves as a settling or sedimenting chamber where the coarser particles of powder drop to the bottom. Another outlet from the bottle permits the withdrawal by suction of the air laden with aluminum dust.

At the McIntyre-Porcupine Mines the aluminum powder is prepared in an enormous mill which will produce about ten pounds per day. It is about three feet in diameter and five feet long and the charge of aluminum pellets weighs over one thousand pounds. The powder is collected in tin cans and sealed until used. It is dispersed into the air of the change room by four dispersal machines operating with about forty pounds of compressed air. When the miners have assembled, the room is tightly closed. The dispersal machines, situated in the corners of the room, are operated in series, one minute for each machine so as to obtain a uniform distribution of the aluminum dust throughout the chamber. The dusting period lasts about ten minutes. The effects are not disagreeable and they are not harmful.

The miners are enthusiastic in their approval of this method of safeguarding their health and workmen from other mines inquire how soon such treatment will be available for them. As yet, we have no statistical evidence as to the efficacy of this form of preventive medicine. The experiment has been in operation only a relatively short time. We must bear in mind that ordiniraarily it takes fifteen or twenty years of such mine work to cause a miner to develop disability from silicosis. On the basis of the animal experimentation and in view of the reports of the fairly successful treatment of well-developed silicosis by aluminum therapy, which I shall discuss later, it is reasonable for us to assume that the miners who are thus protected by the daily inhalation of aluminum dust will never develop disability due to an overwhelming silicosis.

IS ALUMINUM DUST HARMFUL?

Up to this point we have been discussing measures for the prevention of silicosis. It is only natural to inquire what we can do for the cases that have already developed. Before going into that subject it might be well, however, to inquire whether or not there are any possibilities for harm in the use of aluminum dust. I have occasionally heard the remark that we should go slowly in giving approval to the use of aluminum in connection with the treatment and prevention of silicosis because it may predispose to the development of tuberculosis or some other serious trouble.

There are many industries with a silica hazard. The disability produced by silicosis is profound and permanent. Total disability claims of a large number of employees could mean a very serious financial drain on many companies. Compensation rates covering occupational diseases are comparatively high. Fortunately the majority of employers have a very decent attitude toward the problem. They do not want to hide their heads in the sand. They want all of the reliable information that they can get which pertains to their business and to the elimination of occupational hazards for their employees.

On reviewing all of the available medical literature on this subject I found no convincing evidence that the inhalation of aluminum dust produced any toxic effect or serious respiratory disease when used in a dosage suitable for the prevention of silicosis. In order to obtain more definite information I wrote to the Research Department of the American Medical Association and received a very satisfactory reply from which I shall quote briefly: "American medical literature contains no convincing evidence of pulmonary or bronchial injury from exposure to aluminum dust. "The only

report of any group survey in this country is by Crombie, Blaisdell, and MacPherson. They report no abnormal x-ray observations other than a few cases of healed tuberculosis in one hundred twenty-five men exposed to high concentrations of metallic aluminum powder from six to twenty-three years with an average of twelve years. Certain German investigators have believed that there is a hazard although available extracts from their papers do not contain sufficient information on which to evaluate their conclusions. Goralewski and Kaeger state that inhalation of aluminum produces rapidly developing disease that may terminate fatally after eight months of exposure. These authors cite four cases presenting x-ray appearances 'similar to silicosis' exposed one and a half to sixteen years; however, another German, Koelsch, a competent and experienced industrial hygienist, opposes the view of any specific chemical poisoning. He concludes that poor ventilation incident to the blackout and excessive hours of work in young persons is responsible for the abnormal x-ray observations.

"A recent paper by Hunter, Milton, Perry, and Thompson in the British Journal of Industrial Medicine on the effects of aluminum and alumina on the lungs in grinders of duralumin aeroplane propellers indicates no evidence of pulmonary fibrosis in ninety-two workers. Their exposure was heavy and thirty-seven of the group had been employed for more than five years. The operation involved grinding and polishing the metallic alloy with aluminum oxide paper. Finally experience in North America and Britain failed to confirm the German reports that aluminum produces any serious effects on the lungs."

The latest article which I have read on the subject, is by Tabershaw and Bowditch in the New England Medical Journal for November, 1944. After referring to the use of finely powdered metallic aluminum in the prevention of silicosis, they say: "Since that time a number of experimental and clinical investigations have been in progress and the concept has been enlarged from that of using aluminum to prevent silicosis to its use for the treatment of silicotic patients. The first problem was to establish the harmlessness of aluminum. Although some doubt had been cast on this by German investigators, who described a pneumoconiosis due to aluminum, these observations have never been confirmed and it is now generally accepted that aluminum, at least in the amounts used for treatment, does not produce harmful effects."

TREATMENT OF ESTABLISHED CASES

The animal experimentation with aluminum dust was begun at the McIntyre-Porcupine Mine at Schumacher, Ontario, and subsequently moved to the Banting Institute at Toronto, where the work could be carried on in a more scientific manner. Dr. D. A. Irwin supervised the work at Banting Institute. The clinical research on human silicosis has been carried on at the McIntyre-Porcupine Clinic for Silicosis Research, St. Marys Hospital, Timmons, Ontario, by Drs. D. W. Crombie and J. L. Blaisdell and later in Washington, Pennsylvania, by Dr. J. W. G. Hannon.

The original clinical studies were made upon patients who presented frank cases of silicosis uncomplicated by any other serious disease. A searching physical examination was done together with x-ray to eliminate patients who had advanced heart trouble, diabetes, hypertension, syphilis, and tuberculosis. Respiratory function tests were recorded in all instances. Aluminum dust for inhalation purposes was freshly prepared by a mill, such as previously described, and the patients were permitted to inhale the aluminum-laden air through a tube leading from the settling bottle. The tube is equipped with valves to prevent flow of air back into the bottle. The time of treatment is gradually increased from three minutes to twelve minutes and treatments are given three times a week for a period of twenty weeks or more in a series.

The amount of improvement is difficult to estimate accurately. At least subjective improvement was found in all cases. It seemed to be proportional to the amount of disability. The response to treatment was obtained in a very short time. Some of the patients noticed an alleviation of their cough after a few treatments. At the end of three or four weeks the tightness in the chest disappeared and shortness of breath on exertion was improved. Dr. Hannon quotes the patients as saying, "Aluminum takes the leather out of your lungs." He explains the early relief of symptoms as being due to the ability of aluminum to prevent the formation of silicic acid. In at least 50 per cent of the cases there was a gain in weight and an increased capacity for work. An improvement in lung ventilation was also demonstrable by respiratory function tests.

After the preliminary testing series, when patients were chosen only after passing a very rigid physical examination, it was considered practical to establish treatment centers at industrial plants where there is a definite silica hazard. At the present time there are one hundred two such local

treatment centers located at mines and manufacturing plants in the United States. X-ray examinations of the chest are made to determine the presence of x-ray evidence of silicosis and, if possible, to eliminate cases of tuberculosis.

From the standpoint of the employer it is very desirable not to recommend treatment to an employee who has tuberculosis. If the tuberculosis flares up while the employee is taking aluminum treatment, he may argue that the treatment precipitated his trouble and that the employer is legally liable. On the whole, the reports from these on-the-spot treatment centers are very encouraging. Out of a total of one hundred forty-three in one group of workmen, who had positive x-ray findings of silicosis and disability, one hundred thirty-five showed improvement. A few of the men in this group, who had been awarded compensation because of total and permanent disability due to silicosis, went back to work again at their former occupations. Others, who were considered eligible for compensation awards prior to treatment, are sufficiently improved to continue at work and they maintain that they have twice the capacity for work which they had previously.

In a group of one hundred four patients, who had positive x-ray evidence of silicosis but who denied any disability, there were ninety-three who claimed to be distinctly improved after treatment. The plant production figures for this group are said to show an increased capacity for work.

As we said before, it is hard to evaluate the amount of improvement to be derived from inhalation therapy in silicosis because so many of the factors involved are subjective. It is easy for a patient to exaggerate the degree of his disability when he suspects that he has silicosis and it is equally true that he can exaggerate the degree of his improvement after treatment. No amount of aluminum will have the slightest effect upon the areas of the lungs which are fibrosed. The characteristic nodules in the x-ray films, which are the trade-mark of advanced silicosis, are not altered in the slightest degree by treatment. The nodules represent the end stage in an irreversible pathological process. Only the immature lesions are amenable to aluminum therapy.

It would appear that the benefits must come from the prevention of the liberation of silicic acid from those particles of silica which are not as yet walled off and barricaded by the layers of collagen and fibrous tissue. When a patient's cough is diminished, his friends and his family testify to the fact. When a workman can go back to his place and do twice as much as he did before without undue shortness of breath, his fellow workmen can testify to the improvement. When a man says he has less tightness in the chest and that he feels better than he did, we have to take his word for it.

The method of using aluminum for the treatment and prevention of silicosis has been patented by the McIntyre Research, Ltd., a nonprofit organization. Any fees accumulating from the licenses are used in further research on silicosis and kindred hazards with special reference to tuberculosis. The license fee is one dollar per year for each man exposed to silica but this does not necessarily include all of the employees of an individual plant. The cost of the equipment necessary for use in a plant employing five hundred to six hundred men is six hundred ten dollars. This equipment consists of an aluminum powder mill, fifty inhalation valves, and ten nasal clamps, together with the necessary accessories.

Before a plant is licensed, a dust survey must be made by the state or a competent individual agency and a definite program, aimed at the reduction of atmospheric dust to a practical minimum, must be instituted. Furthermore, the prophylactic and therapeutic application of aluminum dust should at all times be under adequate medical supervision.

SUMMARY

(1) In concentrations of 1 per cent with silica, aluminum prevents the development of silicosis.
(2) Aluminum powder is nontoxic in the dosage used for prevention and treatment.
(3) Aluminum aborts or causes regression of immature lesions of silicosis.
(4) The treatment of silicosis by the inhalation of fine aluminum dust results in the lessening of cough, shortness of breath, tightness in the chest, and fatigue.
(5) The very best treatment for silicosis is prevention by the complete eradication of silica dust from the air the workman breathes.
(6) In every industry with a dust hazard provision should be made for pre-employment and periodic physical examinations and chest x-rays.
(7) Silisosis probably can be eradicated as an occupational hazard by means of adequate dust control and the use of aluminum dust as a preventive measure under adequate medical supervision.

SOUND TRAINING NEEDED

Psychosomatic is a term so frequently on doctors' lips, not only those of phychiatrists but of general medical men, that it threatens to take on the qualities of a slogan, and to suffer the same fate that slogans do, generating enthusiasm while it lasts but burning out from its very intensity. This need not happen if the trend in medicine which it represents is allowed natural and sound growth and a chance to become incorporated into the main stream of medicine.—Geo. E. Daniels, M. D., in Bull. Menninger Clinic.

A FLOCCULATION TEST FOR SYPHILIS: ITS TECHNIC AND EVALUATION

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In a previous communication,[1] the writer briefly described a serologic test characterized by simplicity and rapidity. This test can be completed in about twenty minutes after the serum is obtained.

The present report has been prepared in response to requests for more detailed information concerning technic and results.

EXPERIMENTAL BASIS

Any description of the experiments from which the test was evolved would be uninteresting to the majority of medical men. Hence, we shall merely present the findings whose practical application differentiates this technic from other serosyphilis tests.

(1) Instead of heating serum for the traditional half-hour at 56° C., one may heat it at a higher temperature for a much briefer period. This conclusion has been reached independently by several workers[2,3,4].

(2) The employment of multiple tubes in a qualitative test, the readings being averaged, is not only unnecessary but actually conducive to undersensitivity.

(3) Certain occult sources of impurity in antigen have been discovered. These are atmospheric moisture and ultrafine beef heart particles.

TECHNIC

(A) Apparatus: Any laboratory equipped for the Kahn technic will require no further apparatus except a "dissecting microscope." This inexpensive device is essentially a magnifying glass conveniently mounted in such a way as to permit precise and rapid focusing. A great advantage is that at least three tubes, e. g., positive control, negative control and unknown, may be viewed simultaneously.

(B) Reagents: (a) 0.9 saline, made from Na Cl, C. P., and distilled water. Filter through fine-texture paper. Our experiments have shown that within fairly wide limits (5.8 to 7.0) the pH exerts but little influence. The saline must, however, be neutral to litmus.

(b) Antigen: Many workers, even some of considerable experience, appear unable to make antigen for any syphilis test. Most failures, one may suspect, are due to inadvertent contamination with fats, to the action of atmospheric moisture, or to the presence of suspended beef heart powder. It is probable that the pitfalls which cause failure are similar, whatever flocculation antigen one attempts to prepare. In view of the foregoing considerations, the preparation of this important reagent, as used in our test, will be described in detail.

Antigen should be made under conditions of low relative humidity. (Clear, cool day, warm indoors; hygrometer below 50%). This precaution applies especially to steps nos. 4, 5 and 6 below, during which ether, by its evaporation with consequent refrigeration, may cause the heart powder to absorb a very large amount of atmospheric water.

1. Place 100 Gm. commercial beef heart powder into a chemically clean, one-liter Erlenmeyer flash. Add 400 cc. anesthetic ether. Stopper loosely with a clean cork, into the top of which a large ordinary screw eye has been fixed. This, a sort of corkscrew, acts as a handle, enabling the worker to manipulate the cork without contamination of the smaller end. Shake with a swinging motion for ten minutes, guarding the stopper with the other hand. Allow the powder to settle. Carefully pour off the opalescent ether by successive decantations, retaining as much as possible of the powder in the flask. Do not retrieve the small quantity of ultrafine heart powder and other impurities decanted with the ether.

2. Extract likewise three more times, using 300 cc. ether for each extraction, always discarding the ether.

3. Rinse briefly with about 200 cc. ether, discard this and spread the moist powder on fatfree (ether-washed) paper. The powder which remains clinging inside the flask may be washed out with a little ether upon the paper.

4. Place the empty flask in the electric oven or bacteriologic incubator at 45° to 50° C. The handle-equipped cork, small end up, may be placed on a table.

5. Dry the powder at room temperature, breaking up clumps with a clean tongue depressor, the end which comes in contact with the powder having been previously rinsed in ether. Do not allow the end of the depressor which comes in contact with the powder to touch the hands or anything else. (Suggestion: keep the "handle" end wedged under a weight at edge of table, clean end projecting.)

6. When the odor of ether has gone, place the powder in the oven or incubator (see step 4) for 30 to 45 minutes. Return the powder to its flask (see step 4). Promptly add 500 cc. ethyl alcohol, preferably absolute.

7. Stopper the flask; shake for about 15 minutes. Tighten the stopper. Overcap with fatfree paper secured by a rubber band, and allow to stand at room temperature three to four days.

8. Shake for 5 minutes, allow to settle; filter by decantation through fatfree filter paper of medium texture. With a little alcohol (60 to 70 cc.) rinse the muddy powder upon the filter paper. Hasten filtration by gentle pressure with the stopper.

9. Place the alcoholic extract in a chemically clean flask; add C. P. cholesterol, 0.6 Gm. for each 100 cc. Dissolve by rotation in a pan of warm water. Filter through finetexture, fatfree paper. Store in a dark place at room temperature, in a glass-stoppered bottle, capped with fatfree paper secured by a rubber band. Allow to stand several days before titration.

Titrate against 0.9% saline as for Kahn antigen, examining the tubes with the dissecting microscope. Since the antigen described here is ordinarily rather potent, one may frequently, in the interest of economy, employ less than 1.0 cc. antigen against a constant quantity of saline (1.0 cc), thus reversing the procedure of Dr. Kahn.

The value of the antigen must be shown by its behavior with several syphilitic and several non-syphilitic sera.

(c) The serum to be tested, cleared by centrifugation, is heated in the water bath at 60° C. for 5 minutes. Two to three minutes will suffice for serum heated on a previous day, e. g., controls kept over.

ROUTINE ONE-TUBE TEST

1. Mix antigen and saline exactly as in the Kahn technic. Allow the resulting emulsion to stand for 10 minutes. During this period the sera may be heated. Note: The emulsion remains good for at least an hour.

2. Thoroughly remix the emulsion and place 0.025 cc. in a small tube. Add 0.15 cc. of the heated serum. Controls (positive, negative and saline) must also be set up.

3. Shake the rack by hand for a few seconds. Time permitting, allow the rack to stand 3 to 5 minutes, then shake by machine for 3 minutes. A Kahn shaker, having a speed of 275 to 285 oscillations per minute, is ideal for this purpose.

4. Examine with the aid of the dissecting microscope. The optimum focus may be determined by viewing the floccules of the positive control. Some workers add 0.5 cc. saline to facilitate reading. After a little experience, this procedure is usually unnecessary except when the serum is markedly discolored by hemolysis.

Negative result: The fluid is uniformly opalescent. On agitation of the tube, one may sometimes observe a smoky swirl of tiny, flashing, evanescent particles, rather like those in the Eagle test.

Positive result: Suspended in a more or less clear fluid are definite granules, resembling corn meal, sleet or compact snow flakes.

Doubtful result: The particles are numerous and fine (dust-like).

A helpful suggestion, especially for beginners, is the following: View the tubes before and after shaking. Adventitious particles (such as red cells or debris) usually remain unchanged or become dispersed on shaking, whereas true syphilitic floccules definitely increase in size.

Report simply as *positive, doubtful* or *negative.*

TWO-TUBE TEST

This is recommended (1) when the routine test has given a doubtful result and (2) for laboratories in regions where syphilis is prevalent. In some very rare cases clearly luetic, the first tube alone may react (prezone phenomenon). Blood from treated or early cases may react best or only in the second tube.

Technically, the procedure is exactly like the routine test except that a large and a small quantity of antigen are employed, as follows:

Tube No.	Antigen Emulsion	Heated Serum	Antigen Serum Ratio
1	.05 cc.	0.15 cc.	1:3
2	.015 cc.	0.15 cc.	1:10

If both tubes are negative, report *negative.* If both are positive, report *positive.* If both are doubtful, report *doubtful.* Other possible combinations and the proper corresponding reports follow:

Tube No.	Reading	Report
1.	Negative	Doubtful
2.	Doubtful	
1.	Doubtful	Doubtful; suggest quantitative test
2.	Negative	
1.	Positive	Positive; suggest quantitative test
2.	Neg. or doubtful	
1.	Neg. or doubtful	Positive
2.	Definitely Positive	

QUANTITATIVE TEST

Occasionally, in manifest syphilis, the patient is discouraged and the physician embarrassed by the

fact that before treatment the blood gives a doubtful or even a negative reaction, which under treatment becomes and long remains positive, despite clinical improvement. The cause of this paradoxic phenomenon (prezone reaction) is now clearly understood. In some patients the serum contains an overwhelming flood of reagin, with which the ordinary amount of antigen cannot cope; hence, the reaction is weak or absent. As the spirochetes are overcome by treatment, the reagin gradually falls into the rather wide zone where antigen can grapple with it; the test becomes positive.

The remedy for this undesirable situation is a titration (testing serial dilutions of the serum), to determine how much reagin is actually present. It should never be forgotten that the so-called 4 plus may, in a qualitative test, be obtained with serum in which a quantitative test would reveal the actual potency to be anywhere from 4 to 1,000 plus! This is one of the reasons which has caused not only myself [1] but more eminent men, e. g., Moore,[5] Stokes,[6] Eagle,[7] Hinton,[8] to advise abandonment of this traditional nomenclature.

Technically, a convenient quantitative method is to dilute the heated serum with saline, thus: 1 in 2, 1 in 4, 1 in 8, 1 in 16, 1 in 32, 1 in 64. Higher dilutions are seldom necessary. Three-tenths cc. of each strength is tested with 0.05 cc. antigen-emulsion. If, e.g., 1 in 16 should be the highest dilution which gives a positive reaction, the report is "*positive* in dilution of 1 in 16."

EVALUATION

Thanks to the kind cooperation of the West Virginia State Hygienic Laboratory and the Venereal Disease Research Laboratory, it was possible during 1944 to obtain an impartial evalution of this technic by parallel tests on 192 unknown sera. Sixty-nine laboratories in West Virginia participated in this evaluation study.

Specificity and sensitivity: Despite the high standard of specificity required (99%), most laboratories were satisfactory in this respect. But variations in sensitivity were astonishing. With the Kahn standard, for example, one laboratory reported only 5 per cent true positives, another obtained 70 per cent. Results with the other well-known tests were also extremely variable.

Briefly, the Kline diagnostic and the Kahn standard, in this evaluation, were, in many laboratories, of rather low sensitivity. The Kline exclusion, Kolmer, Hardesty, Mazzini and Hinton were highly sensitive.

Here we are confronted with a question of great importance. How sensitive should a syphilis test be? The chief purpose of these tests is to help the clinician answer the question, "are there living spirochetes in my patient?" Candidly, we do not yet know how long a trace of reagin in the blood may survive destruction of the last spirochete. If a test remains positive long after the need for treatment has disappeared, the test is oversensitive, at least for such a treated case.

Thus, it would seem unjust and unwise hastily to condemn the more conservative tests (Kahn and Kline diagnostic). In our laboratory we have consistently found the newer technic somewhat more sensitive than the Kahn; indeed, it not infrequently turns positive within two or three days after the appearance of the chancre. Hence, it is our practice to perform both tests, leaving the interpretation to the clinician, always bearing in mind the old but reasonable dictum: "Diagnosis is made in cortical cells, not in instruments of precision."

In table no. 1 the new technic is compared with the average results obtained for other tests at the two control laboratories. The Kahn and the Kline (diagnostic) were performed at only one of these, and both tests fared better in some private laboratories than in the official (Venereal Disease Research) laboratory. Hence, the figures for the Kahn and the Kline diagnostic represent the average results at the two highest ranking laboratories in which these tests were performed.

No figures are included for any test from any laboratory which reported for that particular test more than 1 per cent false positives.

Table No. 1—Comparison of Sensitivity
(Specificity at least 99%)

Technic	Average Per Cent True Positives	Where Performed
Kline exclusion	89	W. Va. and V. D.
Kolmer	86.5	W. Va. and V. D.
Hardesty	77.5	Author's lab.
Mazzini	76	W. Va. and V. D.
Hinton	69.5	W. Va. and V. D.
Kline diagnostic	73*	*
Kahn standard	64*	*

*Average for the 2 laboratories ranking highest for these tests.
Abbreviations: W. Va.—West Virginia State Hygienic Laboratory.
V. D.—Venereal Disease Research Laboratory.

SUMMARY

1. A simple and rapid flocculation test for syphilis, originally described in 1944, is here discussed in greater detail.

2. The whole test, including preparation of antigen emulsion, can be completed in approximately twenty minutes after the serum is obtained.

3. In the 1944 evaluation studies, this technic ranked among the highly sensitive tests (Kolmer, Mazzini, Hinton) having at the same time a specificity above 99 per cent.

4. The test not infrequently becomes positive within two or three days after appearance of the chancre.

5. Because of the possibility that a trace of reagin may persist for some time in patients who need no further treatment, the question arises as to whether these highly sensitive tests, my own included, should be our sole criteria of spirochetal activity in treated cases. Until this question can be ultimately answered, it seems that the clinician should have the benefit not only of a highly sensitive test, but also of one more conservative, such as the Kahn or the Kline diagnostic.

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PENICILLIN IN ASTHMA

Penicillin has been used for almost every condition, disease or disorder to which man is heir, even cancer. In intrinsic asthma, however, it is possible that the x factor may be bacterial. That this supposition may be true is confirmed by a paper by Leopold and Cooke in which they detail two case reports in which penicillin was employed with rather remarkable results. In both these two treated individuals the asthma continued despite every type of treatment over a long period of time. Penicillin was then administered and both of the patients showed a remarkable improvement.

These two physicians, both men of reputation and standing, also have under treatment twenty-five other patients with intractable asthma. They say it is too early to comment upon the results of the treatment of these patients but that it is obvious penicillin is not a panacea for all cases of asthma due to infection. Be that as it may, the report of these two observers would indicate the use of penicillin in intractable cases of asthma when other forms of therapy have proved ineffective.—New Orleans Med. & Surg. Journal.

AIR POLUTION

The average person takes two to three quarts of food and drink in through his mouth each day, but in the same time he takes into his lungs 10 to 12 thousand quarts of whatever atmosphere happens to be around him. Most of the dirt or pollution in this large volume of inspired air is caught and held in his respiratory system.—Clarence A. Mills, M. D., in Rhode Island Med. J.

ACUTE LARYNGOTRACHEOBRONCHITIS IN CHILDREN*

By HENRIETTA L. MARQUIS, M. D.,
Beckley, West Virginia

Acute laryngotracheobronchitis is a disease that occurs in children more frequently than is commonly supposed, and the mortality rate is directly affected by the promptness with which the diagnosis is made and proper treatment instituted. Until recent years the mortality rate has hovered between 90 and 100 per cent, but with the advent and greater use of the sulfonamides and the bronchoscope, and a clearer understanding of the underlying pathology, recent figures have ranged in various reports from 25 to 60 per cent. It is yet a formidable disease entity.

The disease is characterized by edema of the larynx and the subglottic region with the formation of tough, viscid, obstructive and often crusting exudate in the tracheobronchial tree. It occurs in mild form at almost any age, but the most severe fulminating types are seen in children under three years of age. Hoarseness, dyspnea and asphyxia are caused by the combined action of swelling and exudate in the larynx and subglottic area. In addition, in severe cases there is a profound toxemia. The disease is infectious and transmittable although there is no specific organism. Most often the Streptococcus has been found to be the offender, but other organisms have been reported. One of the cases reported in this article occurred as a complication of measles and another gave a pure culture of Pneumococci. A clear picture of the type of exudate is very important to an understanding of the disease. It is scant and very viscid. It was a high fibrin content and tends to lose fluidity and to form semisolid plugs and crusts that easily cause obstruction and severe respiratory embarrassment in the passages already narrowed by edema.

The symptoms and physical signs at first are those of any acute upper respiratory infection with involvement of the larynx. There is a mild elevation of temperature, a coryza, and a croupy cough. In the mild cases the disease follows the course of an ordinary spasmodic croup and recovery is uneventful. In the fulminating cases toxemia and respiratory obstruction supervene. There is marked dyspnea and laryngeal stridor, retraction of the suprasternal notch, the intercostal spaces, and the

* Presented before Raleigh County Medical Society at Beckley, March 16, 1944.

epigastrium. All the accessory muscles of respiration are used, especially the plastysma and alae nasae. Cyanosis, rapid thready pulse, and restlessness develop. Often the cyanosis changes to an ash-gray color, the child appears to be in shock and the temperature is subnormal. The cough becomes more and more croupy and a wheeze develops. In severe cases the cough may cease entirely. Unless the obstruction is relieved fairly early the child will die of asphyxia and exhaustion or of atelectasis, or is strangled by his own exudate.

Very early physical findings may be only those of an ordinary bronchitis. Coarse rales may be heard. In the mild cases it is often impossible to differentiate between acute laryngotracheobronchitis and acute catarrhal laryngitis or spasmodic croup but as obstruction occurs the physical signs change. The important diagnostic signs do not require anything but an observant eye.

In reaching an early diagnosis the primary necessity is to recognize the obstruction. It is then necessary to rule out diphtheria and the presence of a foreign body. Bacteriological examination, x-ray and, when possible, bronchoscopy are the main adjuncts used to reach an accurate conclusion.

Once laryngotracheobronchitis is suspected, the treatment is especially concerned with keeping the exudate as fluid-like as possible and with administering chemotherapy to combat infection. Sulfadiazine or sulfamerazine are the drugs of choice unless the Staphylococcus is involved and then sulfathiazole may be used. Dosage should be figured according to the weight of the child, 1 to 1½ grains per pound of body weight in twenty-four hours with the initial dose representing 1/3 of the total twenty-four hour dose. While we have had no experience with penicillin in the treatment of this condition it is likely that it will prove of value in those patients who do not respond promptly to the sulfonamides.

The problem of keeping the exudate fluid-like has been studied by Holinger and his associates [1] who have been interested in the influence of various expectorants and gases on the sputum and mucous membrane of the tracheobronchial tree. It is desirable that the exudate be kept liquid to aid expectoration and diminish the formation of crusts and obstructive plugs. One method of liquefying the exudate within the bronchi is by using agents which cause hyperemia of the mucosa. Expectorant drug action attempts liquefaction of secretion in the large bronchi but rarely affects the peripheral bronchi. These expectorant drugs are a time honored remedy but actually achieve little. The best expectorant is adequate hydration and moist air. Oxygen has a drying action and its use alone may do harm in obstructive lesions where the obstructive lesion is aggravated by thick exudate. Hot or warm air is very drying but when water vapor and carbon dioxide are added to oxygen the drying effect of the latter is lessened and cyanosis and respiratory embarrassment are relieved. Codeine and atropine are contraindicated because codeine depresses the cough reflex which is essential in getting rid of the exudate and the atropine has a marked drying effect and directly aggravates the condition.

The temperature of the air breathed becomes of extreme importance in acute laryngotracheobronchitis. The patient's room should never be warmer than 68° to 72° F. If oxygen is used, a humidifier should be attached to the tent. If the child is at home, a croup tent is frequently used but great caution must be observed that the croup kettle does not boil dry and that the air does not become too warm. There is nothing worse for these patients than dry hot air, and so often this is exactly the result from enthusiastic but thoughtless use of a croup kettle. The goal is not heat, but moisture. Excellent results may be obtained by hanging several wet bath towels or sheets over chairs and other furniture in the room and keeping the doors closed. It is better to have the room too cold than too warm. The lowest mortality rates in cases not requiring bronchoscopy or tracheotomy have been reported where oxygen has been used with the humidifier attached to the tent as devised by Davidson.[2]

When maintenance of the airway becomes difficult, bronchoscopy or tracheotomy should be performed. If bronchoscopy is available its repeated use may avoid tracheotomy. When tracheotomy becomes necessary it is advantageous to insert a bronchoscope first. This lessens the strain on the child and allows a more leisurely operation. Tracheotomy should be done early and not as a last resort. A low tracheotomy is the procedure of choice. Once a tracheotomy tube is in place a soft smooth-tipped rubber catheter may be inserted gently far down in the bronchial tree and the exudate aspirated if it is not being coughed out properly. The nursing care of these tracheotomized patients is of extreme importance in the outcome, and, whenever possible, nurses should be obtained who have had special training.

If doubt exists as to the presence of diphtheria, it is a wise precaution to administer diphtheria antitoxin without awaiting laboratory results.

Further therapeutic measures should be directed against dehydration and acidosis as well as toxicity. Fluids must be given in abundance and if the child cannot keep up an adequate fluid intake they should be given parenterally. Small blood transfusions may be of great help. Just recently Davies [3] has advocated the use of hypertonic human plasma to combat the laryngeal and subglottic edema.

The most frequent complications are due to extension of the infection to the lungs or heart. Pericarditis, myocarditis and endocarditis are frequent and often fatal. Pneumonia, especially bronchopneumonia, frequently occurs. If the acute phase is survived, chronic pulmonary suppuration may persist.

Reports of four cases seen in the past three years follow. All were of the fulminating type in children under two years of age. Three patients recovered and one died.

Case 1.—Baby E. P., age 17 months, was admitted Sept. 26, 1941, and expired thirty-one hours after admission. The child had become ill with a head cold two days before admission. The day before admission she developed a croupy cough which grew progressively worse. The cough became less severe but she developed difficulty in breathing and was acutely ill. On admission she was found to have a high fever, labored respirations, anxious fascies and widely dilated alae nasae. On inspiration there was retraction of the supraclavicular spaces, suprasternal notch, intercostal spaces and epigastrium. The pharynx and tonsils were mildly inflamed. No membrane was seen. Loud musical rales were heard throughout both lungs with exaggerated breath sounds. Nothing else abnormal was noted in the chest. A tentative diagnosis of acute laryngotracheobronchitis was made and the possibilty of laryngeal diphtheria also considered. On admission 10,000 units of diphtheria antitoxin were given immediately and a throat culture made. A pure culture of Pneumococci was reported. The leucocyte count was 19,400 with a total polymorphonuclear count of 80 per cent, 54 per cent nonfilamented cells. As no bronchoscopic facilities were available, a low tracheotomy was performed shortly after admission. Through a small soft rubber catheter introduced through the tracheotomy tube, several crusts and some thick mucoid exudate were removed, and respiration became easier. Fluids were given by mouth as well as parenterally. The day following tracheotomy the child would become cyanotic every few minutes, the nurses would aspirate a plug of exudate through the catheter, and the child would be relieved temporarily. Finally, there came the time when nothing could be aspirated, the plug evidentally being too tenacious or below the reach of the catheter, and the child expired.

Case 2.—Baby F. L. W., age 3 months, was admitted to the hospital May 9, 1942, presenting the picture of respiratory obstruction. The child had had a slight head cold for a day or two, then suddenly became very dyspneic and acutely ill the night before admission. It would not take its formula and would vomit if feeding was forced. Birth weight had doubled at the time of admission. The child was acutely ill, cyanosed and had great respiratory difficulty. There was marked dilatation of the alae nasae and retraction of the head was noted with each respiration. The pharynx was congested. There was some cyanosis and the percussion note was hyperresonant over the entire chest. Breath sounds were distant and no rales were heard. X-ray on admission revealed no foreign body or lung pathology. A diagnosis of acute laryngotracheobronchitis was made. A small catheter was attached to the suction machine and introduced far into the pharynx evacuating a large amount of viscid, tough, ropy mucus. Because of marked cyanosis the child was placed in a Hess incubator which was filled with oxygen. Hot water was placed in the containers to keep the humidity high. Sulfadiazine therapy was started. The temperature which had been 96 F. per rectum rose to 101.6 F., cyanosis cleared, and the child gradually improved. A smear and culture of the aspirated mucous showed the presence of Staphylococcus albus and Pneumococci. The child was later removed from the oxygen incubator to a croup tent, responded well to treatment and was discharged on the fifth day.

Case 3.—Baby E. J. R., age 6 months, was admitted to the hospital April 16, 1943. He had an acute upper respiratory infection which was not responding to treatment. The day before admission there developed a croupy cough, hoarseness and difficulty in breathing. On admission the child presented a typical picture of respiratory obstruction with cyanosis and a temperature of 101.8 F. per rectum. X-ray of the chest revealed nothing of importance. He was placed in a croup tent and given sulfadiazine and sodium citrate. The cough reflex was well established and the child responded promptly to treatment so that tracheotomy was not necessary. He was discharged from the hospital on the seventh day.

Case 4.—Baby E. L., age 16 months, was seen at 3 a. m., Feb. 29, 1944. He was in extremis with respirations slow and labored and cyanosis marked. He had developed measles ten days before and had followed the usual course until the day before admission when his cough had become croupy and marked hoarseness was noted. The temperature on admission was 101 F., respirations 6, with a pulse so rapid it could not be counted. Physical examination revealed no breath sounds on the right side, loud musical rales throughout the left lung field and the heart displaced to the left side. There was the usual eruption of measles with the pharynx extremely red. It was felt that the child had subglottic and laryngeal edema together with atelectasis. Although it was hardly expected that it would survive the next few hours, the only hope for recovery was in hospitalization and the child was admitted to the hospital and placed in isolation. Special nurses were assigned to him. The child was placed in an oxygen tent and 25 per cent glucose was given intravenously. The cyanosis decreased slightly. The aspirator was attached to the suction machine and introduced far back in the pharynx, whereby the cough reflex was stimulated and thick ropy mucous aspirated. Because slight improvement seemed to occur, this treatment was continued for a half-hour. At the end of this time breath sounds could be heard throughout the right lung. His temperature rose to 107.6 F. per rectum and he had a generalized convulsion. Ice compresses were used on the head and precordium and the oxygen was continued. The convulsion ceased and the temperature fell to 103 F. The child improved generally so that four hours after admission he was removed to a croup tent. Continuous hypodermoclysis was given, and also a sulfonamide. Hoarseness and the croupy cough continued for several days. The cough then subsided and all obstructive emphysematous signs disappeared. The child was discharged from the hospital seven days after admission.

CONCLUSIONS

Acute laryngotracheobronchitis is a nonspecific infection of the upper respiratory passages featured by edema of the glottis and larynx and the presence of a characteristic, tenacious, viscid, scanty exudate in the tracheobronchial tree which causes respiratory obstruction. It may occur as a complication of other diseases. In children the disease is to be suspected when signs of acute respiratory obstruction develop and the diagnosis is confirmed by excluding the presence of foreign body, and diphtheria. The treatment consists of combating the infection with chemotherapy, maintaining a clear air passage and doing everything possible to aid in the liquefaction and evacuation of the peculiar type of exudate present.

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PSYCHIC TRAUMA

Just as some persons present undue sensitivity to drugs, foods, pollens, and temperature, so do those predisposed to Graves' disease react to one or another type or degree of psychic and environmental irritant. They appear incapable of satisfactory adjustment to adversity. In a situation in which the instinct of self-preservation is called upon to decide between fight and flight, the sensitive individual is singled out of the crowd to become the subject of exopthalmic goiter. During a conflagration, an earthquake, a shipwreck, or an automobile or train accident, 99 out of 100 persons may emerge from the harrowing experience to recoil to usual physical and mental health. One of them, however, quickly or gradually develops symptoms merging into the typical picture of "frozen fright" characterizing exopthalmic goiter. This form of psychic trauma (imminent danger to life and limb) is but one type of emotional insult elicited in the history of these patients.—Israiel Bram, M. D., in N. Y. St. J. Med.

ABDOMINAL PAIN IN CHILDREN

Colic is as frequent in the breast-fed as in the artificially-fed infant. It is relieved at once by the old remedy, holding the baby snugly against the shoulder and patting his back. Children refer many of their complaints vaguely to the abdomen. Fortunately they vomit easily, especially after dietary excesses. The pain and vomiting must not be taken too seriously, since the tendency is to subside spontaneously if the children are left alone and allowed to rest. The greatest danger to the patient is the colleague who focuses attention on the appendix Acute appendicitis is a rare disease in childhood, but, unfortunately, appendectomy is a common operation.

The discrepancy between the number of abdominal surgical scars seen daily and the few cases of genuine acute appendicitis is amazing. If a reasonable doubt exists as to the diagnosis of acute appendicitis, the appendix must be removed. However, the doubt cannot be reasonable until a leukocyte and differential count, a urinalysis and a rectal examination have been made. There is always time for these harmless procedures before submitting a child to an abdominal exploration.—E. L. Kendig, M. D., in So. Med. & Surg.

The President's Page

Peace is here! The guns have been silenced. From the air no longer will pour the bombs that have laid low proud cities and have killed and maimed and tortured people who had no avenues of escape. Huge battleships, swift destroyers, and undersea serpents of destruction will no longer batter and mow down coast lines with their powerful armament.

For nearly six years the world has had to exist in a terrifying nightmare unleashed by fanatical and bloodthirsty tyrants. With the surrender of the Japanese the last of the blood leaches have been destroyed, and with their elimination a new era has begun. Peace is with us again after all the years of darkness—peace and the rebuilding of good will which should remain with us for generations, if only the people of the world will foster it with the brilliant capabilities they have displayed in bringing to their knees those who so ruthlessly embarked upon aggression. This is now the universal hope of all our peace-loving people.

To those who have sacrificed their positions and their brilliant accomplishments, we give a permanent shrine in our hearts and thoughts; in our memories will live forever the brave spirit of those who gave their lives so that civilization could survive. They bore the brunt of this long, bitter struggle the final outcome of which brought light where darkness shrouded the world for so many years. Our gratitude to them can only be a humble outpouring in an effort to bring solace to their families. It cannot bind up their bleeding wounds and tortured hearts. They have paid the price which is beyond us all to restore.

Thomas C. Harris

President.

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TELEPHONE NARCOTIC ORDERS

Mr. H. J. Anslinger, U. S. Commissioner of Narcotics, calls our attention to a widespread violation of the Harrison Narcotic Law by physicians and druggists in the practice of telephoning narcotic prescriptions to druggists and later signing the written prescriptions after they have been filled. Such a practice might be defended on the ground that doctors are much overworked and that telephoning prescriptions to a druggist saves the time of both doctor and patient. Granting the truth of both these contentions and they are actually true, does not justify violation of one of the most salutary of all the Federal Statutes. We realize that this practice is widespread in West Virginia, and we are inclined to believe that it is at least as common in most of the other states. In this connection we quote from the report of the Federal Grand Jury at Muskogee, Oklahoma, under date of June 26, 1945:

"We have made a partial investigation of a report concerning laxity in the dispensing of narcotics by some of the medical profession and some of the druggists. The facts developed disclosed a rather shocking disregard of the law. In some instances it appears now that some druggists fill telephone prescriptions for narcotics and later take the prescriptions to the doctor for his signature. It also appears now that an unnecessarily large quantity of narcotics is being dispensed by some druggists and physicians to persons who are well known addicts. The investigation thus far reveals an astounding condition in this respect. We do not wish to place ourselves in a position or attempt to determine when, or under what manner, or in what quantities a person may need narcotics for the alleviation of pain and suffering, but we feel that we are in position to say that the conditions above referred to are intolerable and wholly unwarranted, and if continued can only result in an indictment wherever warranted. It has been stated in defense of this condition that the doctors are overworked and prescriptions by telephone are time savers. We are conscious of the overworked condition of most of our physicians, but we disagree with the contention that such practice is warranted in order to save time. It is a matter of obeying or violating the law.

"We are making this report at this time in the hope that these abuses, as well as any others not mentioned herein, may be speedily corrected. We propose to pursue this investigation further when next called and will then take such action as the facts and circumstances warrant at that time."

Regardless of convenience and time-saving, we, as physicians, are under an especial obligation to obey all laws, Federal, state, or local, and very especially those pertaining to health and medical practice. Each physician applying for a certificate of licensure in West Virginia signs, as a part of his application, a pledge of law observance. By common consent physicians are regarded as having the highest average standards of education, training, and conduct of all callings, and in the vernacular of the street "it is up to us" to obey all laws and particularly those having to do with the maintenance of health and morals.

Another point worth remembering is the fact that in telephoning narcotic prescriptions to druggists we are taking advantage of the druggists and leaving them "holding the bag." They are, in most instances, our personal friends, and for business reasons also they do not feel like offending us by declining to receive prescriptions over the telephone. We venture the assertion that none of the laity and only those members of the medical and pharmaceutical professions who come in actual contact with enforcement of the Harrison law have any adequate conception of the magnitude and the horrors of drug addiction in this country.

Is there any legitimate reason why we should not write out narcotic prescriptions before we ask druggists to fill them? After all, it is, as the Muskogee grand jury points out, "a matter of obeying or violating the law."

POET PHYSICIANS

Doctors are always about the busiest people on earth, yet some find time to write poetry. Mrs. Mary McDonough of Washington, the wife of an army medical captain, has been running them down.

She has found over 500, and printed selections from the writings of 110 in a new book. The list starts with Wang Wei, a Chinese physician who wrote over 1,000 years ago. John McCrae, whose "In Flanders Field" is perhaps the finest poem of the First World war, was a doctor. So was Francis Thompson, whose "Hound of Heaven" is one of the great poems of the English language. And poetry was the hobby of as noted a physician as Edward Jenner, discoverer of vaccination.

Far from being a waste of time, hobbies are the best possible way to spend time. They afford relaxation and increase fitness for work. The physician poets Mrs. McDonough has unearthed deserve credit for their wisdom.—Charleston Gazette.

ARC HOME NURSING COURSE

The American Red Cross Home Nursing Course was expanded in recognition of the present critical health needs in our country. The overcrowding of hospitals makes home care of minor illnesses a necessity and, with the shortage of nursing personnel, professional nursing care is often not to be had. The bedside care of the person who is ill at home then becomes the responsibility of some member of the family.

According to Dr. Caroline Helmick, the course is designed to provide instruction and supervised practice in carrying out simple nursing procedure such as taking a temperature with a clinical thermometer, keeping the patient comfortable in bed, giving a bed bath, giving medications and simple treatments prescribed by the physician, serving a tray, including proper selection of foods for the invalid, improvising sick-room equipment from materials which are readily at hand, such as pasteboard cartons for back-rests and bed tables, and newspapers for waste disposal, and other nursing skills and techniques. It also includes instruction in the recognition of illness and the prevention of communicable disease.

The advantages to the physician of having someone with this training in the home where his patient must be cared for without the services of a graduate nurse are obvious. He has some assurance that the person caring for the patient has some knowledge of how to keep the patient clean and comfortable and how to give ordinary bedside care with a certain amount of proficiency. The physician is spared the necessity of giving detailed instructions for certain treatments such as hot and cold applications, steam inhalation, etc. Nor does he have to explain the need for and techniques of simple procedures such as handwashing and disposal of waste to prevent the spread of communicable disease.

The attitude of the individual who has had even a minimum of training in nursing techniques has become more objective and less emotional. She approaches her tasks with greater confidence in her own ability and this, in turn, is reassuring to the patient.

Local Red Cross chapters everywhere are presently accepting applications for fall classes. You can add to your own peace of mind by urging that at least one member of every family in your community enroll in a Red Cross Home Nursing course now.

DON'T LET THEM DOWN

Doctors returning from the military service are finding it increasingly difficult to find office space. Especially is this true in the larger cities of the state. Some are contemplating locating in other states where space can be found in desirable areas. Certainly there is some way to help provide these doctors with temporary locations.

Considering the many sacrifices they have made, it should not be made hard for them to be reestablished in their practice. Every member of every component society should interest himself in this matter. Possibly in many cases temporary space can be allotted in quarters now occupied by doctors who have remained in civilian practice. Officers of all societies should immediately appoint committees to help these returning medical officers get relocated without delay. It is inconceivable that any of our own doctors should find it necessary to locate in other states because of lack of office space in their home communities which they left months, and in many cases years ago, in order to serve their country. We cannot, we must not now let them down.

General News

PENICILLIN FOR TREATMENT OF VD CASES AVAILABLE WITHOUT CHARGE

Under a system of distribution approved by the syphilis committee of the West Virginia State Medical Association, the State Health Department is making penicillin available to doctors over the state through county health departments.

To obtain penicillin, for which no charge will be made, a complete case report, including the patient's name, must be submitted to the county health department. The drug must be administered in accordance with one of the following approved evaluated schedules, both of which provide for a total dosage of 200,000 units to be administered intramuscularly:

Schedule A: Initial dose, 66,666 units (2/3 of 1 ampule); second dose, 66,666 units; and, third, 66,666. The doses are to be given two hours apart over a total period of four hours.

Schedule B: Initial dose, 50,000 units (½ ampule); second dose, 50,000 units; and third, 100,000 units (1 ampule). These doses are also to be given two hours apart over a total period of four hours.

It is pointed out by Dr. John C. Hume, acting director of the bureau of venereal disease control, that the schedules are subject to change in the light of studies now in progress. If satisfactory schedules employing a shorter time period or a smaller number of doses are developed, they will be adopted.

Each case of gonorrhea treated with penicillin from the state health department's supply must be followed for four to six months with the object of detecting any possible concurrent syphilitic infection. This follow-up should include, at the minimum, a monthly physical inspection and serologic test for syphilis. The regulations provide that a contact report must be made on each case. Doctors who are not in a position to do contact interviewing may refer the necessary information to the local health department so that this essential part of the program may be carried out.

Interested physicians may secure penicillin from local health departments or venereal disease clinics.

NEW DIRECTOR APPOINTED

Mrs. Ruth J. Franz, of Milwaukee, Wisconsin, has been appointed director of the bureau of public health education in the state health department, succeeding the late Dorothea Campbell, of Charleston. Mrs. Franz, who is a graduate of the University of Michigan, and who has completed a course in public health education at the School of Public Health at Ann Arbor, has recently been doing field work for the Michigan Department of Health.

WILL EXPAND PROGRAM

During the fiscal year ended June 30, 1945, 222 persons received physical restoration services from the new division of vocational rehabilitation of the state education department. According to F. Ray Power, the director of vocational rehabilitation, the program, which has the full cooperation of the State Medical Association, will be expanded during the current year.

RELOCATIONS

Dr. John Q. Godbey, formerly of Wevaco, is now located at Sophia.

* * * *

Dr. C. Leonard Brown, who has been located at Madison, has moved to Nellis where he succeeds Dr. J. Marshall Carter in industrial practice in that area. Doctor Carter is now with the Ochsner Clinic at New Orleans, La.

* * * *

Dr. C. A. Willis, who has been a member of the staff at the Veterans Hospital at Huntington, is now officer in charge of the veterans administration's branch office at Clarksburg.

PROGRAM FOR MEDICAL CARE

A constructive 14-point program "for the extension of improved health and medical care to all people," adopted by the Council on Medical Service and Public Relations and the Board of Trustees of the American Medical Association, was published for the first time in the J. A. M. A., issue July 21, 1945. The program follows:

1. Sustained production leading to better living conditions with improved housing, nutrition and sanitation which are fundamental to good health: we support progressive action toward achieving these objectives.
2. An extended program of disease prevention with the development or extension of organizations for public health service so that every part of our country will have such service, as rapidly as adequate personnel can be trained.
3. Increased hospitalization insurance on a voluntary basis.
4. The development in or extension to all localities of voluntary sickness insurance plans and provision for the extension of these plans to the needy under the principles already established by the American Medical Association.
5. The provision of hospitalization and medical care to the indigent by local authorities under voluntary hospital and sickness insurance plans.
6. A survey of each state by qualified individuals and agencies to establish the need for additional medical care.
7. Federal aid to states where definite need is demonstarted, to be administered by the proper local agencies of the states involved with the help and advice of the medical profession.
8. Extension of information on these plans to all the people with recognition that such voluntary programs need not involve increased taxation.
9. A continuous survey of all voluntary plans for hospitalization and illness to determine their adequacy in meeting needs and maintaining continuous improvement in quality of medical service.
10. Discharge of physicians from the armed services as rapidly as is consistent with the war effort in order to facilitate redistribution and relocation of physicians in areas needing physicians.
11. Increased availability of medical education to young men and women to provide a greater number of physicians for rural areas.
12. Postponement of consideration of revolutionary changes while 60,000 medical men are in the

service voluntarily and while 12,000,000 men and women are in uniform to preserve the American democratic system of government.

13. Adoption of federal legislation to provide for adjustments in draft regulation which will permit students to prepare for and continue the study of medicine.

14. Study of postwar medical personnel requirements with special reference to the needs of the veterans' hospitals, the regular army, navy and United States Public Health Service.

1945 MARCH OF DIMES

Contributions to the 1945 march of dimes of the National Foundation for Infantile Paralysis totaled $16,589,874, as compared with $10,973,491 for 1944. West Virginia contributions amounted to $144,888.15.

In releasing the report of the 1945 campaign, Basil O'Connor, president of the National Foundation, expressed deep appreciation for the united efforts of the press, radio, motion picture and theatre industry, labor groups, and the "millions of Americans in all walks of life whose magnificent support of this cause has given us the necessary ammunition to carry on the fight."

Of the total amount of funds raised, one-half is allocated to national headquarters, and one-half is retained by county chapters.

DR. McCLINTIC'S PAPER PUBLISHED

The presidential address delivered by Dr. C. F. McClintic, of Williamsburg, before the 12th annual meeting of the Southern Branch American Public Health Association, at St. Louis, November 13, 1944, is published in full in the July, 1945, issue of the AMERICAN JOURNAL OF PUBLIC HEALTH. The title of the paper is, "Mental Hygiene in a Public Health Program—Its Implications."

NEW EMIC POLICY IN EFFECT

Under a new policy put into effect by the division of maternal and child hygiene of the state health department, the wife of a soldier who becomes pregnant before his discharge or promotion to a higher pay grade may apply for care under the EMIC program even after his status in the armed forces has been changed. An infant or any child born to the wife of a soldier in the eligible pay grade may be given care for the first year of life whether the father is still in service or not. Previously, application for this infant care had to be made prior to the father's discharge or promotion.

According to the state health department, a weekly average of 129 applications for EMIC care has been maintained for the past few months. This is a sharp increase over the same period in 1944, when approximately 82 applications were received each week.

EXECUTIVE BOARD TO MEET

The regular fall meeting of the executive board of the Woman's Auxiliary to the West Virginia State Medical Association will be held at Charleston, October 16, 1945. Mrs. U. G. McClure, president, has announced that the Woman's Auxiliary to the Kanawha Medical Society will serve as hostess at a luncheon which will follow the meeting of the board.

MATS FOR W-M-D BILL PUBLICITY

The National Physicians Committee has prepared and sent to local medical societies printed proofs of mats available for use in connection with newspaper publicity concerning the new Wagner-Murray-Dingell bill. Mats will be furnished without charge and shipped prepaid on request of society officials. It is hoped to have the publicity appear in daily and county newspapers all over the United States.

Mats of the advertisements are available in either full page sizes or in 5 columns by 200 lines. Local daily newspapers have already received a copy of the brochure, acquainting the manager with the nature of the publicity. The approval and cooperation of the county societies is necessary to put it to work. The only cost to the society is the cost of the space in the local newspaper. There is no charge to either newspaper or the sponsors of the advertisements for any of the material contained in the brochure.

EXAMINATION POSTPONED

Due to the transportation difficulties, the examination scheduled by the American Board of Ophthalmology for October 1945, in Chicago, has been postponed until January 18-22, 1946.

DOCTORS LICENSED IN W. VA.

Seven doctors have been licensed to practice medicine in West Virginia as the result of the examination conducted by the public health council at Charleston, July 5-7, 1945.

The list includes Drs. Donald Painter Brown, of Kingwood, Brady Fitz Randolph, Jr., of Sutton, and Robert Granville Williamson, of Charleston, who hold commissions in the Army Medical Corps; William Crocket Covey, Jr., of Beckley, now in the Naval Medical Corps; Er Chang Ping, a member of the staff at Weston State Hospital; Kaden Tierney, of Clarksburg; and, Richard Curtis Webster, Jr., who is connected with the Massachusetts General Hospital at Boston.

HEALTH OFFICERS NAMED

At a special meeting of the public health council, held at Charleston early in August, the following additional city and county health officers were appointed:

Fayette county, Dr. J. E. Coleman, Fayetteville; Morgan county, Dr. E. H. Willard, Berkeley Springs; Kenova, Dr. Roscoe W. Stotts; and Richwood, Dr. James McClung.

COURSE IN CLINICAL ALLERGY

The University of Pittsburgh School of Medicine offers an Orientation Course in Clinical Allergy, under the sponsorship of The American Academy of Allergy, October 1-5, 1945. The fee is $40.00, with a special fee of $10.00 fixed for veterans, service men, and residents. Special arrangements must be made for registration for evening round table conferences. Inquiries should be addressed to William S. McEllroy, Dean, School of Medicine, University of Pittsburgh, Pittsburgh 13, Pennsylvania.

THE WEST VIRGINIA MEDICAL JOURNAL

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NONCOMBAT HEAD INJURIES AT AN ADVANCED BASE*

By COMMANDER E. LYLE GAGE (MC), USNR,
Bluefield, West Virginia, and

COMMANDER HENRY B. GOTTEN (MC),
USNR, Memphis, Tennessee

At an advanced naval base, interest is necessarily centered on injuries of a combat nature. However, many men have received injuries in the same manner as they might have in civilian life, and since their injuries occurred while serving in the armed forces, they will be classified as casualties of war. We have seen a number of such patients, and their diagnosis and treatment have constituted as great a problem as though occurring in combat. We are reporting a series of thirteen cases treated at this dispensary, which presented some unusual and interesting features.

CASE I. L.H.S. was struck by a piece of timber, and in falling, hit his head against the concrete floor. He was brought to the dispensary and found to be drowsy but not disoriented. There was a three inch laceration over the right parietal area, extending to the aponeurosis of the temporal muscle. In the first aid treatment, this was sutured.

The general and neurological examinations were negative and no fracture was revealed by x-ray. On lumbar puncture, the pressure was 160 mm. of water, with usual oscillations. The fluid contained 750 red blood cells per cubic millimeter.

The wound healed rapidly during the course of the first few days, but the patient was frequently restless and insisted on getting out of bed. On the eighth day he was allowed up, but became frightened after being warned against overexertion. He developed dizziness which lasted four days, but improved sufficiently to be discharged on the fifteenth day after injury. It was learned that for a while thereafter he suffered from occasional dizzy spells and headaches but at the end of six months was symptom free.

CASE II. A.H. This man fell ten feet from a ladder and hit on his head. He was unconscious for only a minute or two, so was kept aboard his ship for three days. Since his headache, drowsiness and nausea persisted, and he complained of numbness of the left side of the face, he was transferred to the hospital. On examination he was found to have engorgement of the retinal vessels with papilledema, slight lateral nystagmus, some diminution of hearing on the left side, some diminution of the cremasteric and adbominal reflexes, and a loss of the sense of smell. In addition there was ecchymosis behind the left ear, and blood behind the unruptured tympanum. The x-ray examination showed some separation of the parieto-occipital sutures on the left, and a fracture through the left petrous temporal bone.

A lumbar puncture was done on the first day of hospitalization, with the removal of bloody spinal fluid which was under a pressure of 320 mm. of water. This patient improved rapidly after the lumbar puncture and by the eighth day the neurological examination was normal. He was discharged to duty on the thirty-seventh day, and four

*This article has been released for publication by the Division of Publications of the Bureau of Medicine and Surgery of the U. S. Navy. The opinions and views set forth are those of the writer and are not to be considered as reflecting the policies of the Navy Department, or the Naval service at large.

months later was reported entirely well. On follow-up examination no residual of injury could be demonstrated.

CASE III. D.M.G. This patient, known to have been drinking, was struck over the head with a bottle and rendered unconscious. On examination at the hospital, he was found to have a contusion over the left eye, a small left subconjunctival hemorrhage, swelling and ecchymosis behind the left ear (Battle's sign), with blood oozing through the tympanum. His respiration rate was deep and slow. There were no abnormal reflexes. The x-ray examination showed a linear fracture through the petrous portion of the left temporal bone extending to the base of the skull. The day after admission, he complained of photophobia. He was found to have some rigidity of the neck, but within five days, all symptoms had subsided and the ear drum sealed over. He was discharged on the twentieth day, free of symptoms.

CASE IV. S.S. This colored man, while intoxicated, sat on the running board of a parked ambulance and subsequently fell to the ground. The driver, not knowing of his presence, started the ambulance and ran over the man's head. On examination at the hospital, the patient was drowsy, either from the effects of the alcohol, the injury, or both, and there was an extensive laceration of the scalp in the occipital area. Neurological examination was negative but the blood pressure was 145 systolic and 96 diastolic. There was found on x-ray examination a small linear fracture of the skull in the left temporal area. The scalp laceration was sutured, and the man was given routine hospital care. He made an uneventful recovery, being discharged in fifteen days free of symptoms.

CASE V. H.S. While intoxicated, this man fell in front of a moving truck. He would have received no injury had he not attempted to sit up, but in so doing he was struck in the face by the rear housing. On admission to the hospital he was incoherent in speech. There was a laceration of the scalp in the left temporal area, a hematoma in the center of the forehead, a contusion of the left eye, profuse bleeding from the nose and a sluggish left pupil. X-ray examination revealed an extensive, stellate fracture of the skull in the left frontal region, extending to the base in the anterior fossa.

The morning after admission this patient was oriented, and, except for aches and pains, had no complaints and no neurological signs of injury. His wounds healed without complications, and he was discharged to his ship free of symptoms on the ninth day.

CASE VI. A.P.T. While making fast a boat, this man fell into the water, and his head was caught between the incoming boat and the dock. He was dazed from the injury, and had some bleeding from the nose and left ear, but he was able to board his ship and go to bed. The next day he was drowsy, and complained of headache and weakness of his left hand. He was transferred to the hospital for treatment.

Fig. 1. Encephalogram (Case 6).

On examination the temperature was found to be 98 F., the pulse rate 62, the respiration rate 18, and the blood pressure 92 systolic and 60 diastolic. Neurological examination revealed absence of the knee jerks, and diminution of the ankle jerks on both sides. There was about 50 per cent loss of strength in the left hand with some loss of subjective sensation. X-ray examination revealed a linear fracture of the skull extending down the left parietal region from the vertex to the base. On lumbar puncture, the initial pressure was 100 mm. of water, and the fluid grossly bloody .

The following day, the strength in his hand was 75 per cent of normal, and, except for persistent headache, improvement was rapid. On the thirty-

first day of his illness a lumbar puncture was done which relieved him of his headache, and on the forty-sixth day he was discharged to limited duty. On the sixtieth day after injury, he was readmitted because of dizziness and recurrence of headache.

Though the headache was not entirely characteristic of that following traumatic injury, an encephalogram was made. X-ray examination demonstrated slight cortical atrophy under the fracture line, with a suggestion of deformity due to fullness in the area beneath. (Figures 1 and 2). Following this procedure his symptoms completely disappeared, but reappeared at intervals during the next three months. His neurological findings remained normal. At the time of the last report he was carrying out his duties and was symptom free.

Fig. 2. Encephalogram (Case 6).

CASE VII. W.J.F. This man, known to have been drinking, was found unconscious at the bottom of a dry dock, apparently having fallen the entire depth. On examination, he was found to be in mild shock and to have a large scalp wound, for both of which conditions he was given emergency treatment. On examination the next morning, the abdominal, cremasteric, and ankle reflexes were absent. He had projectile vomiting and grossly bloody spinal fluid which was under 300 mm. of water pressure. X-ray examination of the skull showed a V shaped fracture in the left posterior parietal area extending to the left temporal region, and some separation of the parieto-occipital sutures. For the first week after the injury, the patient seemed to be slowly recovering, and the neurological examination became normal.

On the ninth day, however, he was found in deep coma, his pupils were dilated and fixed, and

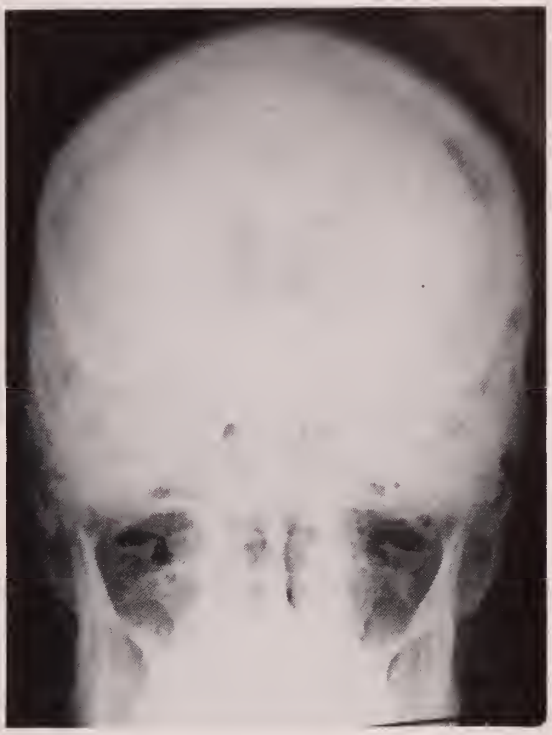

Fig. 3. Encephalogram (Case 7).

there was spasm of all four extremities. His neck was stiff, all reflexes were exaggerated and there was a bilateral Babinski sign. It was thought that a secondary hemorrhage or thrombosis had occurred, and a left occipital trepanation was done. A small subdural hematoma was found and drained. There was very little improvement and on the following day a left temporal trepanation and right subtemporal decompression were done. This time, a small subdural hematoma on the right was removed. During the next few days there was some improvement but the patient remained comatose.

Fig. 4. Encephalogram (Case 7).

There were no pupillary reflexes. The eyeground examination showed slight papilledema. For the next two weeks there was continued slow improvement, though the patient was not rational and he did not regain his vision. The slight papilledema disappeared rapidly but was followed by pallor of the discs. An air encephalogram was started, but after an air-fluid exchange of 30 cc., 10 cc. at a time, he had a generalized convulsion and the procedure was stopped. An x-ray examination showed well outlined ventricles (figures 3 and 4), with no evidence of intracranial deformity. He became almost manic in his actions and was somewhat childish in his constant demand for cigarettes. On the thirty-fifth day he was evacuated to a base hospital, and a recent report indicates that he has improved but that vision has been lost.

CASE VIII. U.S. This man became very much depressed, and in a suicidal effort, struck himself several times on the head with a hammer, causing a compound fracture of the vertex of the skull. (Figure 5.)

When brought to the hospital he was conscious, and the neurological examination was negative. Because of the injury to the bone and the debris in the wound, cleansing and debridement were necessary. The scalp was in shreds and when the piece of depressed inner table of bone was lifted from the median longitudinal sinus there was profuse bleeding. Because of the excessive bleeding along the longitudinal sinus, all of the depressed bone was not removed. The wound healed promptly with no symptoms resulting from the remaining depressed bone, and without the development of abnormal neurological signs. A diagnosis of manic-depressive psychosis was made and he was returned to the United States. On the ship he again attempted suicide but his effort was frustrated.

Fig. 5. X-ray showing depressed fracture of the vertex of the skull (Case 8).

CASE IX. L.J.B. This man was accidentally shot in the head with a rifle, the bullet entering the skull just above the supra-orbital ridge, and emerging at the occipital protuberance. The patient did not regain consciousness and died from shock three hours later, in spite of transfusion, administration of plasma and hemorrhage control. An examination of the skull and brain showed that the wound was direct from the point of entrance to exit. A cavity in the brain substance of the left parietal lobe existed and the longitudinal sinus was torn. (Figure 6.) There was also subdural hemorrhage and hemorrhage in the posterior fossa. Fractures of the right parietal, temporal and occipital bones were also found.

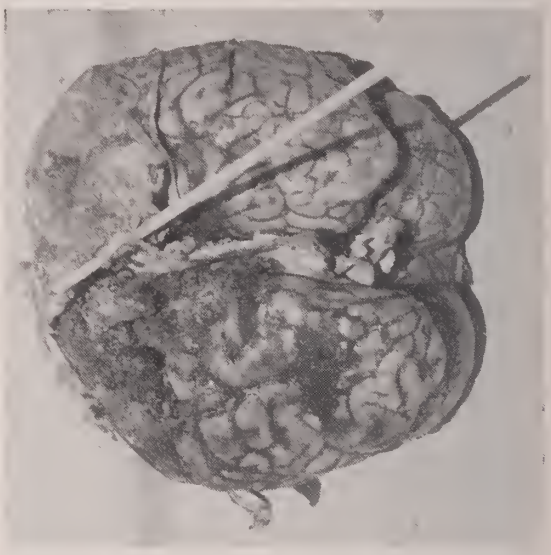

Fig. 6. Brain of patient No. 9 showing destruction of tissue and loceration of the longitudinal sinuses (Case 9).

CASE X. F.J.H. Following a motorcycle accident, this man, with patient XI, was admitted to the hospital unconscious. At the time of admission he was vomiting, there was an odor of alcohol on his breath, and there was blood oozing from the left ear. Examination revealed a pulse rate of

80, a respiration rate of 25, and a blood pressure of 134 systolic and 70 distolic. There was a laceration of the scalp, contusion of the eye, and absence of plantar, abdominal, cremasteric and deep reflexes. The day after the injury, all reflexes were normal. The spinal fluid pressure was 210 mm. of water, and the fluid was grossly bloody (80,000 cells per cubic millimeter). On x-ray examination a linear fracture extending into the petrous portion of the temporal bone was demonstrated. For the next few days the patient was drowsy and refused food, but, except for a divergent squint, his neurological examination was negative. He developed a left peripheral facial paralysis. During the next six days there was very little change, there being no lateralizing signs of pressure, no demonstrable evidence of cerebral destruction and the visual fields, tested in bed with good cooperation, were normal. On the twelfth day he suddenly ceased breathing, and died in a few minutes despite artificial respiration, stimulation and administration of oxygen.

Autopsy revealed a small organizing extradural hemorrhage over the fracture line in the left temporal area, a mushy intracerebral and subdural hemorrhage on the right side in the temporal contrecoup position, and marked softening of the brain in the right temporal region. There were no signs of cerebral compression, either in the brain surface or at the brain stem. Sections of the fixed brain showed softening in the right temporal region extending to within 3 mm. of the ventricle but no hemorrhage in the deep tissues of the brain or the ventricles. There was no evidence of compression of the brain stem or of softening in that area. It was concluded that just before death the hemorrhage had occurred in the softened area of the temporal lobe. This unorganized blood resembled that in the great vessels, while the small amount of blood on the left was already organized.

CASE XI. W.M.S. This man was admitted to the hospital with patient X, having been hurt in the same motorcycle accident. At the time of admission he was in a stupor, with a pulse rate of 90, a respiration rate of 16, and a blood pressure of 130 systolic and 84 distolic. There was an odor of alcohol on his breath, and blood was oozing from his left ear. There was a slightly hyperactive right knee jerk and the abdominal reflexes were still present. Shortly after admission he vomited several times, his pulse rate decreased to 60 and the abdominal reflexes were absent.

The day after the injury, the bleeding from the ear had stopped and the reflexes were normal. There was, however, a retrograde amnesia extending to eight hours prior to the accident. An x-ray examination of the skull showed a linear fracture of the left petrous temporal bone. On the second day, bleeding from the left ear recurred, and on the third day, the patient again became drowsy. A lumbar puncture revealed a pressure of 190 mm. of water, and bloody spinal fluid. On the fourth day, a left peripheral facial paralysis appeared, as in the case of his companion in the accident. The patient continued to complain of severe headache in the left temporal region. On the tenth day, a left subtemporal trepanation was carried out, but there was no intracranial collection. Following this, the headache ceased and recovery was rapid. The facial paralysis began to disappear and at the time of discharge on the twenty-sixth day, movement was about normal.

CASE XII. E.H. Known to have been drinking, this patient was found at the bottom of a stairway with a laceration of the scalp. He was unsteady, semiconscious, and vomited twice while being moved. At the receiving ward of the hospital a diagnosis of acute alcoholism and laceration of the scalp was made. The laceration was sutured and he was put to bed to "sleep it off." The next morning he was still drowsy, but able to complain of photophobia, anorexia and stiffness of the neck.

Examination revealed that the tongue protruded to the left, and that the left facial muscles were weak. The visual fields and reflexes were normal, and no fracture was found on x-ray examination. The spinal fluid was under 380 mm. of water pressure on inspiration, 200 mm. on expiration, contained 200,000 red blood cells per cubic millimeter and had a total protein content of 200 mg. During the next ten days, all symptoms and abnormal physical signs disappeared, and on the thirty-eighth day, he was discharged to duty, apparently well.

CASE XIII. J.K., a naval officer, was brought to this dispensary on August 17, 1944, in an unconscious condition. History obtained from associates revealed that on the previous evening the patient drank several highballs, but was not intoxicated. He entered a carriage, but after driving two blocks, he suddenly became nauseated and vomited. At the same time, he had an involuntary bowel movement, and quickly lost consciousness.

His friends took him to his room, gave him a cold shower and put him to bed. Since he was still unconscious the next morning, he was sent to the hospital. On physical examination his color was good and he was not in shock. His temperature was 101 F., his pulse rate 68, and his blood pressure 110 systolic and 65 diastolic. His respiratory rate was 16, but not entirely regular. He was stuporous, could be aroused momentarily, but could not cooperate. There was no evidence of head injury. His back was stiff, the Kernig test was strongly positive, and the knee jerks hyperactive. Otherwise, the physical examination was negative. A lumbar puncture revealed grossly bloody fluid, with a pressure of 350 mm. of water. The red blood count on the spinal fluid was 70,000 per cubic millimeter. Other laboratory work revealed a white blood count of 17,900 with 78 per cent segmented cells, a negative Kahn, and normal urine. During the next two days the patient's condition remained essentially unchanged. The reflexes became slightly more active, and the spinal fluid pressure increased to 400 mm. of water with 140,000 red blood count per cubic millimeter. His temperature remained normal, his pulse rate slow (60-70 per min.) and his blood pressure unchanged. He did not develop a positive Babinski sign. During the period from the fourth to the tenth day of hospitalization he was treated with intravenous glucose and sedatives. He gradually improved, regaining consciousness at intervals but at times being quite irritable. From the tenth day his improvement was more rapid and it was possible to evacuate him from this activity on the fourteenth day. A diagnosis of spontaneous subarachnoid hemorrhage was made. Indirectly a report on his physical condition has been received which states that he is ambulatory.

DISCUSSION

Diagnostic Problems: As in most cases of head injury, the histories of incidents related to these patients were important and interesting. Eight of the thirteen patients were under the influence of alcohol at the time of their injuries, and in five of these, alcohol can be said to have played the major role in causing the injury. Hurry, carelessness, disregard for potential danger, pure accident and suicidal intent, in this order, were of etiological importance.

In five instances the men themselves were in motion when the injury occurred but in only two of these were contrecoup injury demonstrable. Only two patients failed entirely to lose consciousness: the manic-depressive sailor who hit himself on the head with the hammer, and the colored soldier whose head was run over by an automobile. All of the others had variable periods of amnesia and unconsciousness, and in general the severity of the injury was proportional to the length of coma. There was one exception, Case VII, who was unconscious only a few moments at the time of injury. He suffered severe brain damage, later went into coma, became blind and mentally incompetent.

All of the patients except No. IX, were completely examined on admission.

Patient No. IX was moribund and bleeding so profusely from the median longitudinal sinus that immediate transfusion was done and homorrhage controlled by means of a muscle stamp and packing.

Several diagnostic problems presented themselves. The first and most frequent was deciding the part played by the head injury, and that played by alcohol. We always allowed the head injury the benefit of doubt, and the patients were kept in the hospital. Bogans tests of the blood were made, the symptoms and signs evaluated, and x-ray pictures of the skull taken. As far as could be determined pupillary reflexes were not disturbed by the alcohol in any of these patients, but the abdominal and cremasteric reflexes were not dependable for evaluation of injury in alcoholics. Alcohol appeared to diminish deep reflex activity. Vomiting came to be looked upon with suspicion where there was evidence of head injury, even if the patients were known to have been drinking. Subarachnoid hemorrhage was present in all of the patients who vomited more than once in the first six hours after injury.

Where there was no direct injury to the cervical region, stiff neck was found to indicate subarachnoid hemorrhage. Photophobia on the first day after injury was not of much diagnostic value in the cases of the patients who had been drunk on admission. If the photophobia persisted after the first twenty-four hours it usually meant that considerable subarachnoid hemorrhage was present.

Patients Nos. XII and XIII were admitted about the same time and their cases illustrate the importance of distinguishing between head trauma with subarachnoid hemorrhage, and spontaneous subarachnoid hemorrhage. The following table illustrates the points of diagnostic and prognostic interest in these two cases.

Diagnosis	Traumatic Subarachnoid Hemorrhage, No Fract. (No. XII)	Spontaneous Subarachnoid Hemorrhage (No. XIII)
Age	44 Years	28 Years
History of Injury or Onset	Fell down stairs, striking head	Sudden onset. No injury.
Alcoholism, Acute	Yes	Yes
History of Systemic Disease	None	None
Family History of Stroke	None	None
Vomiting in 1st 6 Hours	Twice	Repeatedly
Incontinence	No	Yes, urine and feces
Physical Finding— Injury to Scalp	Laceration	None
Localizing sign of Cerebral Injury	Weakness face and tongue	None
Blood in Spinal Fluid	Moderate amount	Very great amount
Stiff Neck	Slight	Moderately severe
X-ray, Fracture Skull	No	No
Photophobia	3 days	6 days
Prognosis	Good	Guarded

For future guidance as to activity, and because of military and medicolegal aspects, the differential diagnosis of traumatic from spontaneous subarachnoid hemorrhage was very important. Patient XII was returned to duty on the thirty-eighth day, while patient XIII was evacuated to the U. S. A., with a guarded prognosis and recommendation of limited duty for a long period. Patients X and XI were in the same motorcycle accident. Both were unconscious on admission. Both had bleeding from the left ear, and both developed a left peripheral facial paralysis on the fourth day after injury. Patient X remained very drowsy and somewhat uncooperative but on repeated examination had no lateralizing signs. On the twelfth day the spinal fluid pressure had become normal but he suddenly ceased breathing and died. Post mortem examination showed an extensive, soft, unorganized hemorrhage in the contrecoup temporal region, despite the apparently normal visual fields which were taken the day before. It would seem that such post-traumatic accidents are impossible to predict, but drowsiness and failure to show signs of recovery after a week are significant. This condition warrants exploratory trepanation of the skull for diagnosis and treatment, in both the contrecoup position, and at the site of injury.

GENERAL TREATMENT

All wounds of the scalp were treated by thorough cleansing, debridement, sulfanilamide crystals locally, and suturing.

Through and through "Stuart" stitches, catching the galea in the deep loop were used and no buried sutures were left in place. There were no scondary infections. Bleeding from the ear was not treated, but a piece of sterile cotton was placed in the ear and changed as necessary. The ear was not cleaned out for two weeks, and then only with sterile swabs. Shock was treated by the usual methods, except that no morphine was used and patients were kept flat in bed. As soon as shock was overcome the head of the bed was elevated but no pillow was allowed. If there was no contraindication, x-ray pictures of the skull were taken on admission, otherwise not until the patient was out of shock. Operation for compound fractures was postponed until x-ray plates could be viewed. All patients with open wounds received a tetanus booster, and those injured in street accidents were given gas bacillus antitoxin. There were no cases of gas or tetanus infection. Lumbar puncture was not done routinely, but in suspected extensive subarachnoid hemorrhage or increased pressure one diagnostic lumbar puncture was made. In persistent or recurrent increase in intracranial pressure, lumbar puncture with fifty per cent reduction in pressure was done as a therapeutic measure. Fluid intake was maintained to the point where daily urinary excretion was 500 cc. or more, and hematocrit studies aided clinical judgment in adjusting water balance.

Restraint of restless patients was accomplished by canvas sides to the lower half of a double deck bunk. Before restraint or sedation was resorted to, care was taken that constipation, overdistended bladder or local irritation from dressings was not responsible for restlessness. Patients Nos. VII and X required nasal tube feeding and catheterization. No case of hyperthermia developed.

SURGICAL TREATMENT

Five of the patients had extensive bleeding from the ear. Five had lacerations of the scalp, and of these, four had compound fractures of the skull. Two of the compound fractures were comminuted and required operation involving the bone and deeper structures. Treatment of simple lacerations and bleeding from the ears was as before stated. When patient No. VII was admitted, he was moribund and still bleeding from his head wound. Although realizing the probable futility of our efforts, we immediately took him to the operating room and started a blood transfusion. After cleansing the wound rapidly, we stopped the bleeding from the median longitudinal sinus by means of two muscle stamps and a gauze pack. We believe that operation, other than to control bleeding or free the airway, is contraindicated before the patient is out of shock.

Case No. VIII was unusual in that the compound fracture of the skull was self-inflicted with a hammer. The patient was in acute mental depression, and, despite his extensive scalp and skull injury, had not lost consciousness, and continued to bemoan his failure in the suicidal attempt. The ragged scalp had to be excised and there was difficulty in closing the wound. We believe that incisions resulting in sharp ends of scalp should be avoided, and, whenever possible, circular flaps used. The resultant healing is generally much better. When a piece of bone is adherent to a torn vessel or a blood sinus, and is superficial and causing no symptoms, we prefer not to free it, as greater damage may result. Bony depressions of the skull may frequently be left alone unless full of dirt or producing pressure symptoms.

Patients Nos. VI and VII had air encephalograms. We believe air encephalogram has a definite place in the diagnosis and treatment of the sequelae of head injuries. Patient No. VI developed post-traumatic headache, for which he was successfully treated by air encephalogram combined with psychotherapy. The procedure was carried out on patient No. VII to rule out possible intracranial compressive lesion. The case of patient VII is still somewhat of a puzzle to us. Although a little drowsy, he apparently was recovering until the episode of coma and decerebrate rigidity developed on the ninth day.

The amount of subdural hematoma encountered in the repeated trepanation hardly explained the incident and the complete blindness coincident with the coma has not been satisfactorily explained. X-ray plates taken after the encephalogram showed slight regular lateral ventricular dilation, particularly on the side of the decompression, but the lateral ventricles were in the midline and the third ventricle was normal in size and situation. There was no demonstrable evidence of chiasmal, interpeduncular or optic tract compressive lesion to explain the blindness. This and a severe manic type of mentality persisted as long as we were able to follow him. Patients VII and XI were both subjected to exploratory trepanation. We believe that this operation, although it should not be done promiscuously or in place of careful diagnostic study, should be carried out thoroughly and without hesitation when there is a possibility of an intracranial collection of blood.

Our patients were allowed to sit up in bed at their own pleasure after the sixth day, and in a chair after the tenth day. We do not believe that a patient with a head injury needs a long period of bed rest any more than does a patient who has undergone a craniotomy. The effect of early mobilization on the patient's morale is very beneficial.

Rapid return to duty or civilian occupation is, on the other hand, a decision which must fit the condition and occupation of each patient. We use as criteria for return to duty: (1) absence of all abnormal behavior, and subjective symptoms of headache, dizziness, giddiness or memory disfunction, (2) presence of normal circulatory response on exercise and change of posture, (3) responses within normal limits to routine questions used in psychiatric examination, which include Cornell Index and Kent oral emergency tests and (4) mathematical and card playing ability equal to pre-injury status or that which is considered normal for the patient's education and experience.

The only complications and sequelae in this series were the post-traumatic apoplexy of patient No. X, the sudden coma, rigidity, blindness and manic state of patient No. VII, and the post-traumatic headaches of patients Nos. I and VI. There were no infections, hygromas, encephaloceles or permanent peripheral paralyses. The facial paralysis of patient X cleared spontaneously. The pre-injury depression of patient VIII was unchanged by his suicidal attempt and head injury, but according to shipmates, the manic wildness of patient VII had never been present before injury.

The psychological component in a post-traumatic syndrome is illustrated by patient No. I. He developed symptoms following a verbal warning against activity, with the inadvertent mentioning of headaches and dizziness. In the case of patient No. VI we thought that the birth of his child and a resultant desire to return home caused definite psychological hindrance to recovery. Review of his encephalogram plates during the course of preparing this paper, makes us believe that he had a small collection of blood under his fracture line. It is entirely possible that this collection of blood accounted for his symptoms, which at that time were thought to be psychological. The tendency to explain symptoms on a functional basis frequently causes one to overlook organic disease.

All a man's powers are not too much for such a profession as medicine.—Oliver Wendell Holmes.

GALL BLADDER SURGERY*

(A 6-YEAR REVIEW)

By R. J. WILKINSON, M. D., F. A. C. S., and
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From January 1, 1939 to December 31, 1944, 111 patients were diagnosed and operated upon by the Wilkinson Clinic staff at St. Mary's Hospital, Huntington, West Virginia, for diseases of the gallbladder and common duct. In a recent review of the subject of gallbladder surgery, Heuer collected 36,623 cases from the literature in which all sorts of cases were done by all sorts of surgeons, with the death rate 6.6 per cents or 2,453 cases. Heyd has 3,986 cases with operative mortality of 7.7 per cent, or 309 cases. Bhilliant individual surgeons and exceptionally well organized clinics report mortality rate of 1-3 per cent.

Their papers have prompted an investigation into gallbladder surgery done by surgeons of the Wilkinson Clinic over a period of six years.

GENERAL

There were 111 consecutive cases with surgery done to the gallbladder and the common duct. Sixty-three of them answered questionnaires in regard to their postoperative symptoms, etc. One of them was a negro woman who was 37 years of age. The greatest frequency occurred in 1942 with 25 cases and the lowest in 1940 during which time 12 patients were operated upon.

TABLE I

YEARLY INCIDENCE

Year	No. Cases
1939	21
1940	12
1941	17
1942	25
1943	22
1944	14
Total	111

AGE AND SEX

The youngest of the group was 26 years of age and the oldest was 80. The highest percentage of male and female patients fell in the forty to fifty year age group. It was less frequent under thirty and over seventy years of age. Male to female was 1:7. The mortality of male patients was higher than that of female patients, although there was a preponderance of this condition in females. Boyce reports the ratio to be 109 to 295.

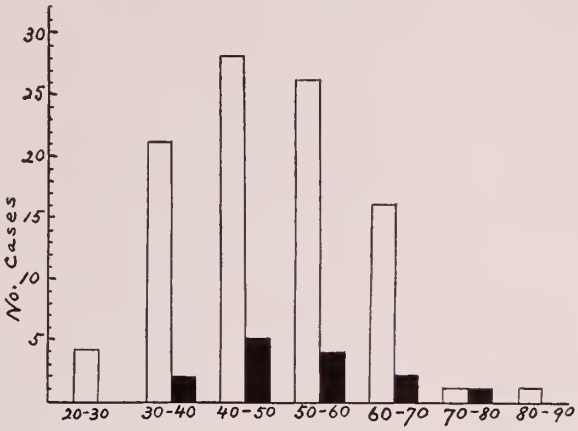

Fig. I. Age and sex incidence: Heavy column—male, 14; Blank column—female, 97. Total—111.

Thorek presented the frequency of male to female as 138 to 511 with 16.8% mortality in males and 9.4% in females. Dublin's figures show that the life expectancy of males after biliary surgery is considerably lower than that of females, especially when stones are present.

DURATION

The longest duration of symptoms among this group of patients was 50 years and the shortest 1 week. Most of the patients came in for surgical treatment when there was a tendency for symptoms to get worse and attacks to become more frequent. The operative mortality was high (33.3% or 1 in 3) among those who did not respond to conservative treatment with duration of acute symptoms less than one month. The operative mortality for those with duration of a year or over was 3.4% or 2 in 59 cases. Eliason found the death rate of those with one attack of jaundice was 1-3% but it was 6% or higher for those with more than two attacks.

There was only one case of rupture of gallbladder in this series of 111 cases. The incidence of rupture in its acute stage was one in fourteen cases (or 7.1%) of empyema gallbladders and subacute cholecystitis. In view of this relatively low incidence of rupture and the comparatively high operative mortality in acute cholecystitis, it is believed immediate surgical intervention on acute gallbladders without restoration of patient's normal blood chemistry and suitable physical conditions should be considered hazardous.

*From the Department of Surgery of the Wilkinson Clinic, Huntington, West Virginia.

TABLE II

DURATION AND MORTALITY

Time	No. Cases	%	Fatality	% Mortality
0-1 mo.	3	2.7	1	33.3
1-2 mo.	6	5.4	1	16.6
2-3 mo.	2	1.8	0	0
3-4 mo.	5	4.5	0	0
4-5 mo.	4	3.6	0	0
5-6 mo.	5	4.5	1	20.0
6-7 mo.	3	2.7	0	0
7-8 mo.	3	2.7	0	0
8 mo.-1 yr.	21	18.9	0	0
1 yr. and over	59	53.2	2	3.4
Total	111	100.0	5	

SYMPTOMS

The outstanding symptoms which helped us in diagnosing 48.6% of patients (or 54 out of 111 cases) without roentgenological confirmation were right upper quadrant pain, its characteristic radiation, its association with eating, excessive amount of gas in the intestines, jaundice, fever and chillness, constipation and change of color of urine and stool.

TABLE III

SYMPTOMS

(From observation of 63 cases)

Symptoms	No. Cases	%
Pain (RUQ & epigastrium)	51	89.5
Radiation (Rt. shoulder, back or under the ribs)	43	68.2
Association of pain with eating	36	57.1
Excessive gas in abdomen	49	77.7
Jaundice	39	62.0
Fever and chillness	34	54.0
Constipation	44	69.8
Change of color of urine and stool	35	55.5

TABLE IV

IMPROVEMENT FROM OPERATIONS

(From observation of 63 cases)

	No. Cases	%
Cured (symptoms free) and good health	43	68.2
Improved (occasional slight pain, gas or constipation but definitely benefited from operations)	16	25.5
Unimproved (still one or more symptoms present)	4	6.3
Total	63	100.0

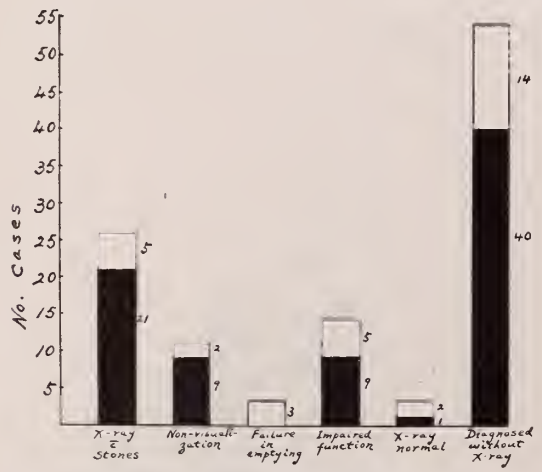

Fig. II. Roentgenological diagnosis and operative findings: Heavy column—stones found, 80; Blank column—conditions other than stones, 31. Total—111.

DIAGNOSIS

Diagnosis of impaired gallbladder function and other pathology of the biliary system with presence of symptoms had been fairly accurate. Fifty-seven of 111 cases (or 51.36%) were confirmed with cholecystograms in which positive findings had been extremely valuable for diagnosis. Only three of this series showed normal findings in cholecystograms but the gallbladders in each case was removed and found to be pathological.

Diagnosis of 48.64%, or 54 of 111 cases was based upon the classical symptoms and signs of gallbladder attacks. These were therefore operated upon without any x-ray work out. Four patients of this group failed to show any definite pathology in the gallbladder but their symptoms were relieved following surgery.

Laboratory findings did not show any definite value in establishing a diagnosis other than ruling out only few other organic diseases.

The leukocyte count was normal in almost all of the patients coming in between attacks. Moderate leukocytosis of varying degree were found in those with acute and subacute attacks of biliary pathology. The highest count in this series was a little over twenty thousand per cu. mm. Presence of jaundice was readily shown on patient's appearance and the laboratory findings.

PREOPERATIVE PREPARATION

The theories of liver death and the experimental reports indicate that the preoperative preparations on patients for biliary surgery is essential. Graham was able to reduce his mortality in simple cholecystectomy from 6 per cent to .4 per cent by setting an arbitrary standard of safety for operation without elaborate preparation. He used iso-iodeikon and took 50 per cent retention as an arbitrary standard.

Patients with acute cholcystitis were carefully observed for 24 to 48 hours and surgery was not undertaken unless patients failed to respond to conservative treatment. The lower percentage of rupture of acute gallbladders assured us sufficient time for observation, restoration of normal blood picture, and other supportive treatments.

Patients with biliary disease were prepared with diet high in carbohydrate and protein, fluids by all routes, glucose as necessary, orally and intravenously. Blood or plasma was given when the serum protein was below the extreme limit of 6.3 gm. per

100 cc. and blood was indicated if the patient was anemic. Experience in postoperative complications showed that the determination of serum protein was far more important than was the blood count and hemoglobin percentage. Patients with low serum protein would invariably show signs of delayed wound healing, abdominal distension, or wound disruption. We could at least pick up a few anemic patients from their appearance, but hypoproteinemia could be present in patients with a normal red count or a normal amount of hemoglobin.

Two patients of our series presented hemoglobin percentage of 100 and 86 respectively. The former was complicated with distension and wound disruption and upon serum protein estimation she showed the value of 5.73 gm. per 100 cc. The latter was complicated with edema and distension with serum protein of 5.1 gms. per cent. It is our belief that preoperative preparation is considered incomplete if such examinations are not made.

Liberal amounts of vitamin K were given to patients with obstructive jaundice along with other supportive treatments including blood transfusions, etc. Other vitamins such as A, B complex and C were given routinely. Patients with cardiac or cardiorenal disease should be prepared for operation in close cooperation with a competent internist.

ANAESTHETICS

Spinal anesthesia with novocain was the only type of anesthetic used in this series and was the anesthetic of choice for this kind of surgery except for the occasional use of some cyclopropane inhalation or some intravenous sodium pentothal as supplementary measures.

OPERATIVE TECHNIQUE

High right paramedian incision is made from the xyphoid process down to below the level of the umbilicus. The intestines and stomach are packed off. A retractor is placed under the ribs on the right side. The cystic and common ducts are put under tension with operator's traction on the gallbladder and the assistant's downward pressure on the duodenum. The cystic duct and the vessels are clamped and ligated separately with double ligature on the duct stump. The liver bed is closed. An idoform cigarette penrose drain is inserted into the cystic fossa and brought out through a stab wound. The incision is closed in layers.

The common duct is explored and drained in jaundiced patients, when stones are found in the common duct; when the common duct is dilated, when cloudy bile is aspirated, and when small stones are present.

DRAINAGE

An idoform cigarette penrose drain was inserted into every abdomen in this series of cases. Thorek, Abell, and many others indicated in simple gallbladder operations without opening of common duct, jaundice, spillage, incomplete closure of liver bed and periductal inflammation, drainage is not needed, there being no apparent difference in operative mortality rate. Experimental evidences showed the absence of reparative process of cystic duct stump and that a drain will cause more leakage and more disturbance in the organization of exudate over the stump. In any event, we have not seen in this series or in the experience of previous years, any of the complications which have been ascribed to closure with drainage. Drains are not removed before the sixth day.

OPERATIVE MORTALITY

There were 111 consecutive cases of biliary operations giving an operative mortality rate of 4.5 per cent or 5 deaths. Three of them did not respond to conservative treatment during their first five months of acute symptoms and as a result one died from ruptured gallbladder, and the other two died from liver death and cardiac failure respectively.

Liver death and hemiplegia were the causes of death of the other two patients, one with acute exacerbation of 6-7 year old cholecystitis and the other had cholelithiasis, ventral hernia and hypertension.

TABLE V

AGE AND MORTALITY

Age	No. Cases	Died	Mortality
Under 40 years	27	1	3.7%
Over 40 years	84	4	4.7%
Total	111	5	

TABLE VI

SEX AND MORTALITY

Sex	No. Cases	Died	Mortality
Male	14	1	7.14%
Female	97	4	4.12%
Total	111	5	

TABLE VII

PATHOLOGICAL FINDINGS

Findings	No. Cases
Chronic cholecystitis & cholelithiasis	77
Choledocholithiasis	9
Chronic cholecystitis	7
Empyema gallbladder	5
Empyema Gallbladders and cholelithiasis	2
Carcinoma head of pancreas	2

No change	2
Acute cholecystitis	1
Gangrenous gallbladder	1
Ruptured empyema gallbladder	1
Carcinoma gallbladder	1
Stricture common duct	1
Cystic duct stone	1
Peptic ulcer and empyema gallbladder	1
Total	111

TABLE VIII

CAUSES OF DEATHS

Liver death	2
Peritonitis	1
Cardiac failure	1
Hemiplegia	1
Total	5

TABLE IX

MAJOR COMPLICATIONS

Disruption of wound	4
Atelectasis	2
Bile leakage	2
Phlebitis	1
Wound infection (severe)	1
Delayed wound healing	1
Cholangitis	1
Auricular fibrillation	1
Hemorrhage beneath diaphragm	1
Accidental opening of duodenum	1
Total	15

SUMMARY

1. One hundred and eleven consecutive gallbladder operations were presented.

2. Male to female ratio was 1:7.

3. Gallbladder diseases are most frequent between the ages of 30 and 70 years.

4. 53.2 per cent had symptoms of gallbladder disease one year or more prior to operation.

5. Fifty-seven of a hundred and eleven cases (or 51.36%) were x-rayed with iso-iodeikon and the x-ray findings were verified by the operative findings.

6. Reports from 63 patients answering questionnaires indicated 68.2% of them were cured, 25.5% were improved, and 6.3% were unimproved.

7. Preoperative preparation and operative technique were described.

8. Every patient in this series was drained with iodoform cigarette penrose drain.

9. There were five operative deaths in 111 cases, or a mortality rate of 4.5 per cent.

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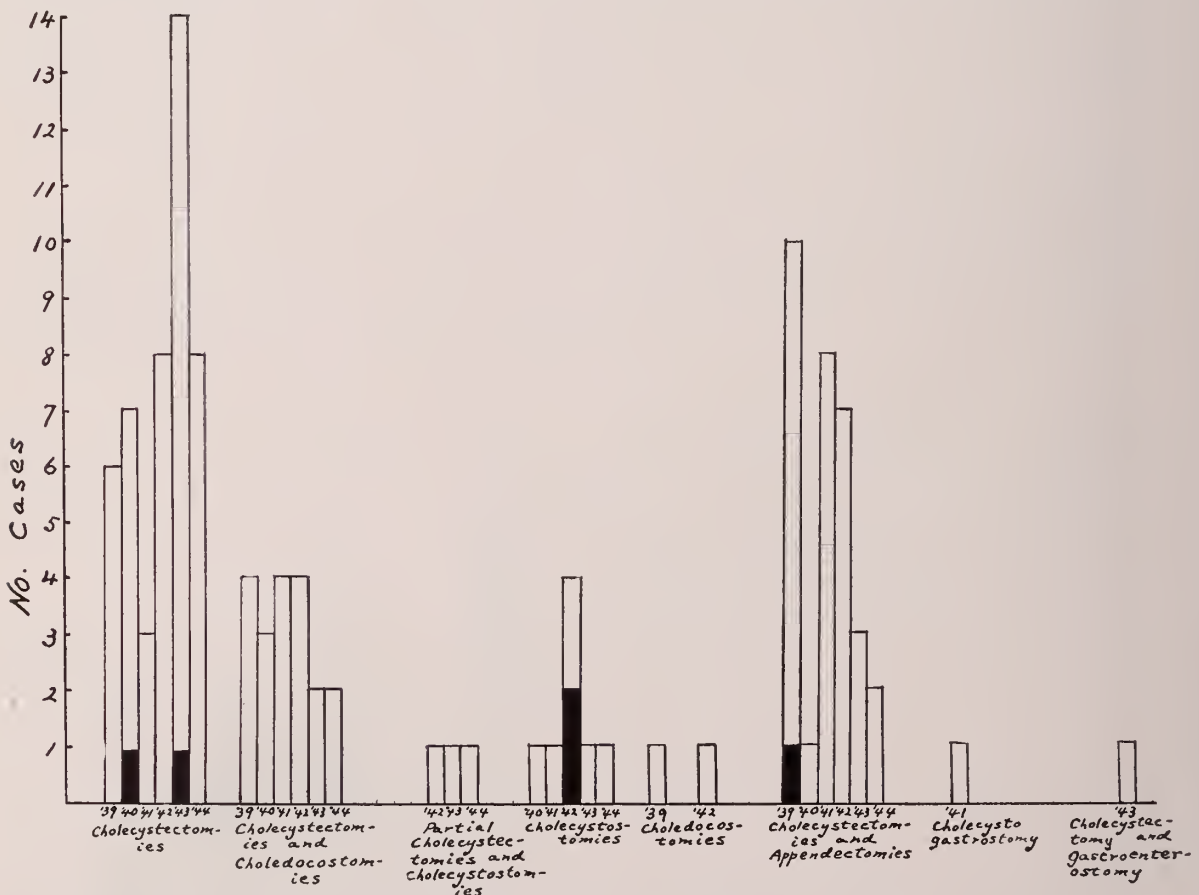

Fig. III. Operative mortality 4.5 per cent. Heavy columns—fatalities—5. Total number of cases—111.

URINARY SUPPRESSION DUE TO SULFATHIAZOLE

By W. MERLE WARMAN, M. D.,
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Although sulfathiazole is ordinarily used with comparative safety, it sometimes reacts in an unusual manner. We know that certain patients upon receiving it have shown unfavorable reactions such as a dermatitis, a headache or malaise, or some urinary disturbance. What we *do not* know is just which patient will prove to be allergic to the drug, or the form that allergy will assume. Sulfathiazole is so commonly used that we do not attempt to determine the sensitivity of our patients to the drug, as is our practice with a preparation such as tetanus antitoxin, for example. An intradermal test for the recognition of sulfathiazole hypersensitivity has been recently devised; and, in the future, it will doubtless be more or less relied upon. The following case illustrates a type of untoward kidney reaction to sulfathiazole.

CASE REPORT

The patient, a 76 year old colored man, was sent to the hospital because of his inability to void. When his physician telephoned me, he said that the patient had "a nice big prostate," and on examination I readily saw that he had not exaggerated. To rectal palpation the gland was greatly enlarged, and the bladder was distended to the umbilicus. A catheterized urine specimen was "smoky" in color, gave a 4 plus reaction for albumin, and contained innumerable red cells and granular casts. After one week of continuous drainage his urine appeared normal, gave no reaction for albumin, and showed only an occasional red cell and no casts. Four days after his admission, a phenolsulphonphthalein test showed a total of 30 per cent output for two hours; eight days later, the output rose to 85 per cent. His nonprotein nitrogen was now 28 per cent.

Since the patient's renal function and blood chemistry had returned to normal, I felt that I could now safely remove his prostate. The operative procedure was uneventful, and the large gland was removed suprapublicly. Two days afterward, the patient was getting along so well that he visited his wife, who was also a hospital patient, and had dinner with her. Six days postoperatively, his condition was so satisfactory that I removed the catheter; he voided naturally and felt well. On the second day following the operation, however, I removed the rubber dam drain from the space of Retzius, and this ordinarily slight procedure resulted in complications which almost cost the patient his life.

Since the space of Retzius is so deep, the drain was apparently removed too soon; the patient began running a fever, and the lower end of the incision became swollen and inflamed. Overenthusiastically, as I view the case in restrospect, I gave him not only penicillin, but also large doses of sulfathiazole—5 Gm. intravenously, and two tablets every four hours by mouth. Over a period of four days he received in all 24 Gm. of sulfathiazole.

Four days later the nurses reported that the catheter must be blocked, as no urine drained from it when it was irrigated. I decided that the catheter was outside the bladder, and attempted some thirty or forty times to reinsert it. Since I obtained no urine from these catheterizations, the possibility of a false passage suggested itself. After thirty-six hours without urine through the uretha, I performed a cystotomy under local anesthesia only to find a perfectly empty bladder. In all those previous attempts, the catheter had been entering the bladder, and I now realized that I had a case of urinary suppression with which to deal. I left the original catheter in the bladder and inserted a right angle one through the upper end of the incision. The patient was returned to his room and for two days, with the possible exception of a few drops of bloody serum, no drainage took place. My colleagues suggested various methods of treatment, ranging from 50 per cent glucose intravenously to salyrgan hypodermically. The only treatment I instituted, however, was parenteral fluids, chiefly glucose, but, occasionally, 1,000 cc. of saline were given subcutaneously. The patient's face became slightly edematous, but his blood pressure and pulse remained normal. Three days after the suppression began, he excreted 50 cc. of dark brown urine, and four days later, during a twelve hour night period, he excreted 150 cc. of almost normal appearing urine. His nonprotein nitrogen as reported for the fourth day was 159 milligrams, and for the fifth, 210 milligrams. On the eighth day his urinary excretion had improved to such a degree that he was voiding, in eight hour periods, from 1,500 to 1,700 cc. The edema of his face rapidly disappeared, and his subsequent course was rapidly for the better.

CONCLUSIONS

In looking up the literature on this type of case, I found that opinion differs as to the pathology

present. Some authors claim that a formation of crystals and concretions develops, and that lavage of the renal pelves is the treatment. Others maintain that a "sulfanephrosis" somewhat similar to that found in mercury bichloride poisoning develops, and that the treatment indicated is unilateral decapsulation and nephrotomy. Moreover, the relevant material indicated that three types of renal pathology could possibly develop from the ingestion of sulfonamides: (1) formation of crystals and concretions, (2) sulfonamide nephrosis similar to that found in bichloride of mercury poisoning and (3) focal necrosis.

The report of the postmortem examinations of a few cases failed to reveal either crystals or concretions. Personally, I have had only one other case of urinary suppression due to sulfathiazole. It occurred in a patient who had been given six doses of two tablets each, every four hours. He, also, had developed anuria, was edematous, and showed signs of uremia with vomiting, headache, malaise, and an increase in blood pressure. He was sent to me for lavage of his renal pelves, but I gave him only intravenous fluids, and after three days he began to void. Incidentally, the draft board rejected him because his medical history showed that he had a hypersensitivity to sulfonamides.

Although the literature suggests that the treatment of anuria following the ingestion of sulfonamides is either lavage of the renal pelves or nephrotomy and decapsulation, the two cases of this type that I have seen recovered without either of these procedures.

In reporting a case in which the symptoms were similar to those described at the beginning of this article, one physician summed up the situation by saying that the condition of his patient was "desperate" and that his recovery was due to decapsulation and nephrotomy. The condition of my patient was likewise critical; and the question in my mind is: Just what criterion should be used to determine when a patient's condition is desperate—the anuria, the edema, the nonprotein nitrogen? Might not the other physician's patient have recovered spontaneously, as mine did, without any operative interference? I do not know, and unfortunately the literature extant reveals no unanimity of opinion as to the proper method of therapy.

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VAGITUS UTERINUS

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Vagitus uterinus, which is defined as crying of the fetus in utero, is a rare incident encountered in obstetrical practice. This condition is rather astounding because of the presence of low-pitched, weird, muffled crying sounds that are entirely unexpected when the incident occurs.

Ryder [1] reported the 123rd authentic case in December, 1943, in a series of observations extending from 1800 to 1941. From 1923 to 1941 there were 16 authentic cases reported, or approximately an average of one case per year. Ryder's report also includes an interesting historical review and data as to presentation, types of delivery, abnormal fetuses and a fetal mortality rate which reached 18.8 per cent.

Mitchell [2] reports the 124th authentic case with associated prolapse of the cord necessitating podalic version and extraction with resultant stillborn infant.

Kitzmiller and Mitchell [3] state that it is generally agreed that three circumstances must be present before vagitus uterinus can take place: (1) the membranes must have ruptured, (2) there is usually some operative manipulation to stimulate the infant, and (3) there must be entrance of air into the uterus. The first and last of the three requisites are accepted, but there is some discussion universally as to whether the stimulation to the infant is central asphyxia or merely a cutaneous stimulation. The following case report fulfills these three requirements.

CASE REPORT

Mrs. M. V., age 39, para XI, gravida VIII, was admitted to the hospital January 4, 1945, for induction of labor after prenatal care dating from November, 1944. Past obstetrical history revealed some of the deliveries as normal spontaneous and others as difficult with prolonged labors and stillborn infants. The ninth delivery was abnormal and terminated in the hospital in July, 1941, by difficult podalic version requiring forty-five minutes after forceps were unsuccessful. Prior to this, forceps delivery at home had been unsuccessful and complicated by prolapse of the cord with a diagnosis of stillborn fetus after this complication. At termination of the tenth gestation in December, 1943, an attempt at delivery by forceps at home was again

*From Laird Memorial Hospital.

unsuccessful. On admission to the hospital the fetal head was below the level of the ischial spines. The heart sounds were weak and slow. The promontory of the sacrum was easily palpable and diminished the internal conjugate diameter. The pubic angle was increased with increased prominence of the ischial tuberosities. With the history of previous spontaneous deliveries and previous attempts at delivery by forceps it was thought advisable again to attempt forceps delivery. Mid forceps were applied under ether anesthesia and the vertex delivered without difficulty requiring approximately sixty seconds, with a stillborn infant being delivered. The cord was white and pulsations absent. The postpartum course was uneventful.

During the prenatal course of the eleventh gestation spontaneous delivery in the hospital was anticipated since the pelvic measurements were determined as adequate even though diminished, keeping in mind the prominent promontory of the sacrum and the bi-ischial measurement of 8 to 9 cm.

On January 4, 1945, with pregnancy at term, amniotomy was performed with onset of labor thirteen hours later. The cervix was fully dilated in one hour with the vertex at the level of the ischial spines and visible with retraction of the labia. After observation for forty-five minutes, with strong frequent contractions, there was no progress of the vertex and pelvic examination revealed an occiput posterior position. Ether anesthesia was administered and the occiput was rotated manually with sudden prolapse of the cord which could not be reduced and maintained. Immediate podalic version was started at which time there were audible sounds emanating from the uterus which were distinguishable to all individuals present in the delivery room. These sounds were recognized as crying and breathing of the infant on two successive occasions, then subsiding. The version was completed in approximately fifteen minutes with increased difficulty in delivering the vertex due to the prominent promontory of the sacrum and acute pubic angle. Five minutes elapsed from the time of appearance of the umbilicus until the vertex was born, using Mauriceau's maneuver.

A viable infant weighing 7½ pounds was delivered. The infant was depressed but responded after aspiration of the pharynx and artificial oxygen inhalation. One cc. of caffeine was also administered after delivery. Condition of the mother was good at the termination of the third stage. Infant's and mother's course were uneventful and patients were discharged on the tenth day.

This report increases the number of reported cases of vagitus uterinus to 125.

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"WADDLE" FOR SACRO-ILIAC PAIN

Observing that knee-chest positions and walking on all "fours" frequently relieved pains in the lower abdomen and back in pregnant women and in women whose uterus was retroverted or retrodisplaced, various positions and exercises were experimented with in order to find one which would be helpful in relieving sacro-iliac pain. The position of squatting on one's haunches and placing the arms so that the hands touch the deck parallel to and lateral to the knees for support proved most satisfactory in relieving back pain. The patient is advised to "waddle" with the head and shoulders bent slightly forward in the crouch position until fatigued. Most patients can continue the exercise on first trial for only 2 or 3 minutes. However they are advised to increase the length of time of exercise by 1 minute daily until exercising for 10 minutes. Acute sacro-iliac pain is relieved almost immediately on merely assuming the position.—Lt. Comdr. B. Schuster (MC) USN, in Naval Medical Bulletin.

THIOURACIL

The toxic reactions to thiouracil include agranulocytosis (sometimes fatal), drug fever, dermatitis of various kinds, swelling of the submaxillary salivary glands, arthritis, edema, vomiting, and jaundice apparently identical with the syndrome of postarsphenamine jaundice. Gargill and Lesses report such a case which lasted one hundred days. Clute and Williams suggest that the drug be given with great care to patients known to have any allergic symptoms. They also warn against overdosage in patients manifesting malignant exophthalmos. Five such patients became worse under thiouracil, but improvement followed the concurrent use of thyroid extract.

It is to be hoped that from thiouracil some substance will be evolved which will be non-toxic and equally effective. Until such a substitute is found it would be exceedingly dangerous to release the drug for general use. For the present its greatest value seems to be in its use in preparing for operation patients with toxic goiters and especially in the preoperative treatment of patients who do not respond to or are allergic to iodine. Its use as a substitute for total thyroidectomy in the treatment of angina pectoris has been reported by Raab. The results would seem to justify optimism and further experimentation.—N. Y. St. J. Med.

The President's Page

This letter is directed, in the main, to the medical officers in the armed forces with reference to their release from service.

The following information has been obtained in the last twenty-four hours by telephone from the Office of the Surgeon General of both the Army and Navy.

The Army has had a top of approximately 45,000 doctors. They will be discharged as follows:

1. On a point system of eighty points.
2. Those entering before Pearl Harbor.
3. Those over forty-eight years of age.
4. Teachers in medical schools and teaching hospitals.

A total of 13,000 eligible doctors will be discharged by January 1, 1946. Those who entered military service before Pearl Harbor and those over forty-eight years of age will be out by December 15, 1945. The Surgeon General estimates another 17,000 will be out by June 1, 1946. Two thousand doctors were given an honorable discharge last month.

The Navy has 11,300 medical reserve officers. They will be discharged as follows:

1. On a point system of 60 points, estimated as follows:
   ½ point for every year of age.
   ½ point for every month of service.
   ¼ point for every month of foreign service.
   10 points for being married; none allowed for children.
2. Disability requiring strictly shore duty.
3. Hardship cases. This means where the absence of the officer from home creates a hardship on his family, i. e., where the wife is ill or dying, with no other member of the family available to look after the children. Financial or community hardships are not considered.

There are at the present time 1,000 medical naval reserve officers eligible for discharge. This constitutes the latest and most authoritative information obtainable.

The writer asked the House of Delegates of the State Medical Association for authority to appoint a committee on Relocation and Reestablishment of Returing Medical Veterans. This committee has been appointed and is actively functioning to help the medical veteran secure office space, equipment, and to provide automobiles, refresher courses and financial aid if necessary. From this committee you will receive a letter asking you to state your plans and needs, and the members will render to you every assistance that is humanly possible. Your prompt answer will help the committee to help you.

Thomas R. Harris

President.

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MEDICAL MUDDLING IN WASHINGTON

Although "cease firing" sounded several weeks ago, the country is still much in the dark as to when any great number of medical officers will be released to return to the civilian front. True, we have seen brief releases in the newspapers lately to the effect that 13,000 would be out by New Year, 1946. In the meantime complaints come by the dozen from doctors in the service to the effect that a majority of medical officers do not have as much work in a week as the average civilian doctor does in a day, and that much of what they do is non-professional.

Mr. Drew Pearson, in a recent "Merry-Go-Round" column, asks Surgeon General Norman T. Kirk why he has held in idleness at Billings General Hospital for three months doctors with 37 months' overseas combat service and 140 points; why he has required doctors to spend a week since the cessation of hostilities studying the mechanism of machine guns and the technique of hand grenade warfare; and why surgeons with approximately two years' foreign service should be required to go on rifle ranges and practice firing and target manipulations. We know nothing of the truth or untruth of these charges, for they are charges despite the fact that they are followed by a question mark. The mere fact that they are given wide publicity demands that some reply be made by official Washington.

Another complaint which comes to us frequently is from men who have been on duty two or three years who feel that the recent graduates, educated in medicine either wholly or in part at the expense of the federal government, and holding reserve commissions, many of whom have been allowed to take residencies after completing internships, should be called to active duty and relieve men who have had, say three years' active service. Without doubt these complainants have their side of the argument.

A further complaint we hear is that medical teachers on active duty cannot secure release to return to their teaching institutions. Certainly the medical schools of this country have taken enough of a "beating" during this war to entitle them to expect prompt release of their teaching personnel (especially those who are in continental United States) after the cessation of hostilities, rather than a peremptory refusal as is rumored to have been given in some instances.

The assignment of medical officers who volunteered for service with the armed forces to the Veterans Hospitals was, we believe, an inexcusable blunder. It is true that only a few hundred such assignments were made, and these, we are told, at the personal directive of the then Commander-in-Chief, but we cannot help but believe that such assignments without the consent of the individual officers so assigned were unjustifiable, even though the Veterans Bureau was actually in dire need of doctors. We have information to the effect, however, that such assignments have been entirely discontinued.

Another blunder in the Veterans Bureau medical service has been the assignment of laymen instead of doctors of medicine as over-all heads of hospitals. A man without medical training simply cannot run a hospital as well as a physician. Happily this error is, we are informed, in the process of correction.

Probably the most colossal blunder pertaining to medicine and the armed services to be effectuated by official Washington has been the refusal to defer a sufficient number of able-bodied men of suitable education and mental calibre as premedical and medical students, and the worst feature of this is that there appears to be no plan now in the post-hostilities draft to remedy this situation. Certainly men who are in premedicine and in the medical schools are entitled to deferment as long as

their scholastic work justifies regular advancement in their classes.

Medicine in warfare and on the civilian front has done anything but a bad job during World War II. Isn't it about time that medicine were released from the figurative "dog house" to which so many would-be reformers have consigned it? Why should the medical profession continue to be the "whipping boy" for politicians on the Potomac? Doesn't the job the doctor has done during the recent crisis justify looking him in the eye rather than leering at him askance?

SOUTHERN MEDICAL ASSOCIATION

It is with much pleasure that we learn the Executive Committee of the Council of the Southern Medical Association has planned a full program for the November meeting in Cincinnati. The Netherland-Plaza has been named as the headquarters hotel and the sessions will be held November 12 to 15, inclusive.

Announcements have not yet been made of all the other meetings that will be held at the time, but there are usually a number of other meetings held conjointly. The American Therapeutic Society has announced through the secretary, Dr. Oscar B. Hunter, of Washington, D. C., that their forty-sixth annual meeting will be held conjointly with the Southern. The business meeting will be on the afternoon of Sunday, November 11, and the scientific session, which will be streamlined to one day this year, will be held on Monday, November 12. There will be two scientific sessions, one at 9 A. M., and the other at 2 P. M., Monday.

This is the first opportunity West Virginia physicians have had to attend a large medical meeting this year. It is close by and our state will probably be heavily represented. All members of the West Virginia State Medical Association are eligible to membership in the Southern Medical Association. Also, all legal practitioners of medicine will be welcome to the scientific sessions of the American Therapeutic Society.

We bespeak a large attendance from the membership of the medical profession in West Virginia.

ON THEIR TOES

The work of one of the new State Medical Association committees is of such outstanding nature as to warrant special comment. The Committee on Relocation and Reestablishment of Returning Medical Veterans has already more than justified its appointment and continued existence. It seems that nothing is to be left undone to help doctors returning from the war. When returns are received from a questionnaire that has been mailed to all doctors remaining in the service, it will be possible to determine just what steps can be taken to help them over some of the rough places that will be encountered upon their return to civilian practice.

Office space, equipment, automobiles and refresher courses are all big problems for these veterans, and it is the duty and no doubt will be the pleasure of every member of our component societies to help find the answers. We know they will not fail their confreres who have served America on the battle fronts of the world.

We pay special tribute to these members of this association committee, which is setting the pace for constructive aid to our returning medical veterans: Dr. Wade H. St. Clair, of Bluefield, chairman; and Drs. Ben I. Golden, Elkins; J. P. McMullen, Wellsburg; E. C. Hartman, Parkersburg; Hugh A. Bailey and Bert Bradford, Jr., Chairleston.

GOOD LUCK, JOE

The best of good wishes of all the members of the West Virginia State Medical Association follow Joe Savage to New York, where he has accepted an executive position with the National Foundation for Infantile Paralysis, directly under Mr. Basil O'Connor, the president. Joe's years of service with the State Medical Association, his executive duties for the past three years in the AAF, and his prior work with the foundation as a field representative and consultant in 1941 eminently qualify him for his new job.

Joe needs no recommendation so far as National Foundation officials are concerned. He proved his worth while he was associated with this organization in a temporary capacity before the war. While on leave from the State Medical Association, he visited practically every state, and the contacts he made then, coupled with his long experience in medical association work, will mean much to the organization in the very important work that lies ahead.

We congratulate the National Foundation as well as Joe. The benefits to be derived from his appointment are manifold. Joe's enthusiasm, his energy, and his will to work will bring new life into an organization that is doing so much for humanity.

Good luck, Joe, and continued success in your new field of endeavor.

General News

ASSOCIATION COMMITTEE ACTS TO AID RETURNING MEDICAL VETERANS

Doctors returning from military service are finding it increasingly difficult to obtain office space, especially in the larger industrial areas of the state. An answer to this and many other problems that will arise to vex the medical veteran is being sought by the West Virginia State Medical Association's Committee on Relocation and Reestablishment of Returning Medical Veterans.

The committee has agreed upon a program which it is hoped will be of material aid to members as they return to civilian life. Officers of component medical societies have been requested to go all-out in their efforts to find suitable office quarters for the veterans. If no space is found to be available, the committee recommends that doctors already established in practice be urged to provide at least temporary quarters in their offices for these returning doctors.

Recommending the appointment in each component medical society of a special committee to handle medical veterans' affairs, the committee suggests that automobile dealers be contacted immediately in local areas for the purpose of obtaining automobiles for doctors as they return to practice. Most of these doctors disposed of their cars at the time they entered service. Members of the Association who own medical and office equipment not in use, which they would be willing to turn over to veterans to help them get started again, were urged to send a list of such items to the headquarters office of the State Medical Association.

Another recommendation concerns financial aid for the veteran. Component societies were urged to make an effort to create a local loan fund which can be used to furnish financial help to medical officers at a low rate of interest. A recommendation was also passed along to the Association's Publicity Committee with reference to publication in local papers by component societies of announcements concerning the return of military members to civilian practice.

Refresher courses of from 60 to 90 days would be provided at hospitals in West Virginia under plans submitted by the committee to all approved hospitals. The chiefs of staff have been asked to ascertain what staff members would be interested in employing medical veterans who desire to brush up on medicine or surgery before they resume civilian practice.

With full knowledge that there are several vacancies in industrial practice over the state, particularly in the coal fields, the committee suggested that doctors now in practice who need assistants and veterans who desire professional connections, carry short want ads in the West Virginia Medical Journal.

For several years no dues have been assessed against members in the military service and the committee recommended to the council that dues of all these members be waived for an additional consecutive calendar year following the release of the medical officer from military service. The council was requested to urge the 29 component societies to take similar action with reference to local dues.

A letter is being mailed to all medical officers requesting information concerning their plans for the immediate future, whether they plan to return to their home communities, relocate somewhere else in the state, or locate in another state. In this way, the committee can determine whether or not relief may be expected in certain areas where a definite shortage now exists.

The committee is composed of Drs. Wade H. St. Clair, chairman, Bluefield; Ben I Golden, Elkins; E. C. Hartman, Parkersburg; Hugh A. Bailey and Bert Bradford, Jr., Charleston; and, J. P. McMullen, Wellsburg.

WILL CELEBRATE DISCOVERY OF X-RAY

The fiftieth anniversary of the discovery of x-ray will be celebrated on a national basis during the week of November 5 to 10 under the sponsorship of the American College of Radiology, Mac F. Cahal, executive secretary of the group, announced recently.

The anniversary celebration, Cahal said, will mark the development of x-ray as a medical instrument and call public attention to the uses of radiology in the diagnosis and treatment of disease. It will also seek to educate the public to the services of the radiologist, a physician, who specializes in the medical applications of the x-ray, devoting his skill to the interpretation of x-ray film for diagnosis and the application of x-rays in the treatment of many maladies.

The x-rays, so called because science did not know their exact nature, were discovered by the German physicist, Wilhelm Conrad Roentgen, on November 8, 1895, at the Physical Institute of the University of Wurzburg in Bavaria. Early in his experiments with the newly discovered rays, Roentgen found that they would penetrate opaque objects, among them the human body. Interposing his hand between the source of the rays and a piece of luminescent cardboard, Roentgen saw the "bones of his living hand projected in silhouette upon the luminescent screen."

His discovery electrified the medical world, which immediately saw the vast possibilities of this new instrument in the war on injury and disease. While the public is generally familiar with the use of x-ray in the detection of broken bones, Cahal said, it does not fully appreciate, perhaps, the employment of radiology in diagnosing "soft tissue" pathology and the use of x-rays in the prevention and treatment of disease.

No part of the human body, due to developments in the medical uses of x-ray over the past half century, is now hidden from the radiologist. By means of x-ray examination, the radiologist can detect diseased conditions of the brain, the heart, the lungs, the digestive tract and other parts of the body, eliminating guesswork almost entirely. Incipient cancer, tuberculosis and other maladies are quickly diagnosed by radiology, allowing for preventive treatment which more often than not arrests the disease. The x-ray plays an indispensable role in dentistry. Also, cancer, various blood

diseases and other conditions may be checked through treatment with x-rays.

The "golden jubilee" celebration of the discovery of x-ray, Cahal added, will emphasize the above-mentioned health attributes of x-ray in medicine, seeking, particularly, to acquaint parents with the most important role of radiology in the early detection of disease in youngsters. Public education in this respect, he pointed out, will go far in forestalling diseases, which, if allowed to develop, would undermine the health of youngsters, perhaps resulting in untimely death.

LOCATES AT CHARLESTON

Dr. Harold H. Kuhn, assistant orthopedist and instructor in orthopedics for the past year at Duke University School of Medicine, Durham, North Carolina, has located at Charleston, where he has offices in the National Bank of Commerce Building. Doctor Kuhn is a native of Charleston and is a graduate of Duke University School of Medicine.

DOCTORS RESUME PRIVATE PRACTICE

Capt. B. J. Moore (MC), of Chester, who has been serving overseas with the 45th Evacuation Hospital, has been honorably discharged from the Army and has relocated for the practice of medicine at Morgantown, where he has offices in the First National Bank Building.

Capt. Ira F. Hartman, who was formerly attached to veterans advinistration facilities at Huntington and Dayton, Ohio, and who has recently been assigned to Ashford General Hospital at White Sulphur Springs, has been given an honorable discharge from the Army and has resumed private practice at Buckhannon.

COUNCIL TO MEET

A meeting of the Council of the West Virginia State Medical Association has been called for Sunday, October 7, at Parkersburg, by the chairman, Dr. Robert J. Reed, Jr., of Wheeling. Besides considering routine association matters, the Council will fix the dates for the annual meeting at Huntington in 1946 and will receive and act upon reports from several committees.

COL. BERT BRADFORD RETURNS

Lt. Col. Bert Bradford, Jr. (MC), who has been in the military service since March 1941, has been given an honorable discharge and has resumed the practice of his specialty of surgery in Charleston. He has temporary offices in the Medical Arts Building.

During the past four years, Colonel Bradford has seen service in England, France, Holland, Belgium and Germany. Since 1942, he has been with General Hodges' First Army and has been serving as chief of the surgical section with the 45th Evacuation Hospital.

RELOCATIONS

Dr. Andrew K. Butler, who has served as resident physician at the Hopemont Sanitarium for the past two years, is now located at the University Hospital, Ann Arbor, Michigan, where he has accepted a three-year residency in radiology.

Dr. Max Koenigsberg, of Point Pleasant, who has served as secretary of the Mason County Medical Society for several years, and who is also chairman of the local procurement and assignment committee, will leave October 1, for Philadelphia to take up studies in internal medicine at the Graduate School of Medicine, University of Pennsylvania.

* * *

Capt. Dewitt T. Bond (MC), formerly of Amherstdale, who has been serving with a medical detachment in New Zealand, has been given an honorable discharge and has returned to the states. He is now engaged in private practice at Danielsville, Georgia.

* * *

Dr. J. E. Andes, formerly of Morgantown, who has been in industrial practice at Pulaski, Virginia, for several months, has moved to Bozeman, Montana.

* * *

Dr. C. Leonard Brown, who has been engaged in industrial practice at Nellis, has moved to Point Pleasant.

HELP THEM GET TOGETHER

Doctors who need medical assistants and members of the West Virginia State Medical Association returning from military service who desire to make professional connections are invited to make their wants known through the columns of the West Virginia Medical Journal. Short want ads will be carried without charge. This service is in line with suggestions made by the Committee on Relocation and Reestablishment of Returning Medical Veterans in an overall program designed to aid such veterans to find satisfactory locations upon their release from military service.

AM. BD. OF O. AND G. SCHEDULES EXAM

The next written examination and review of case histories (Part I) for all candidates will be held in various cities of the United States and Canada on Saturday, February 2, 1946, at 2:00 P. M. Candidates who successfully complete the Part I examination proceed automatically to the Part II examination held later in the year. All applications must be in the office of the Secretary by November 1, 1945.

All candidates are now required to be out of medical school eight years and in that time they must have completed an approved one-year internship and at least three years of approved special formal training, or its equivalent by the preceptorship method under a recognized obstetrician-gynecologist or a diplomate of the Board, in the seven years following the intern year. The Board's requirements for internships and special training are similar to those of the American Medical Association since the Board and the A. M. A. are at present cooperating in a survey of acceptable institutions.

Application blanks may be obtained from Dr. Paul Titus, Secretary, 1015 Highland Bldg., Pittsburgh 6, Pa.

SOUTHERN MEDICAL ASSOCIATION MEETS AT CINCINNATI NOV. 12-15

The 39th annual meeting of the Southern Medical Association will be held at the Netherland-Plaza Hotel, Cincinnati, Ohio, November 12-15, inclusive. Regular scientific programs will be given, but most of the social features will be omitted. The headquarters will be at the Netherland-Plaza. All reservations will be handled through a local hotel committee.

The Campbell-Kenton County Medical Society, which is made up largely of the profession resident in Covington and Newport, Kentucky, will be the host society. It is a Kentucky meeting, but Cincinnati hotel facilities will be utilized exclusively.

Two West Virginia doctors, Russell B. Bailey and Charles D. Hershey, of Wheeling, are on the program, which has been arranged by Dr. R. J. Wilkinson, of Huntington, secretary of the section on surgery.

Dr. Ray M. Bobbitt, of Huntington, is a member of the Council, which is the official governing body of the Association, and Dr. Walter E. Vest, also of that city, is chairman of the board of trustees.

Mrs. John P. Helmick, of Fairmont, is president of the Woman's Auxiliary to the Southern Medical Association, which will meet in Cincinnati at the same time.

Over 100 West Virginia doctors attended the last meeting of the Association which was held in Cincinnati in 1943.

FALL MEETING OF EXECUTIVE BOARD

The regular meeting of the executive board of the Woman's Auxiliary to the West Virginia State Medical Association will be held at Charleston, October 16, 1945, with the Woman's Auxiliary to Kanawha Medical Society serving as hostess at a luncheon.

Mrs. U. G. McClure, the president, has announced that Dr. Wade H. St. Clair, of Bluefield, and Mr. Charles Lively, Executive Secretary of the West Virginia State Medical Association, will be the guest speakers. Doctor St. Clair will discuss plans of a committee of which he is chairman for the relocation and reestablishment of returning medical veterans, and Mr. Lively will speak on pending and proposed medical legislation.

PHC MEETS OCTOBER 4-6

The regular fall meeting of the public health council will be held at the Daniel Boone Hotel and the Capitol, in Charleston, October 4-6, 1945, for the purpose of examining applicants for licensure to practice medicine in West Virginia.

GRADUATES IN AVIATION MEDICINE

Three West Virginia doctors were among the 145 medical officers who completed the aviation medical examiners' course at Randolph Field, Texas, September 18. Those completing the course were Captain Robert R. Trotter, Morgantown; Captain Paul E. Vaughan, Fraziers Bottom; and, Lt. Richard A. Porter, Newell.

OVER 700 REFERRALS REVIEWED BY DIVISION OF CANCER CONTROL

Because of an unexpectedly high number of referrals of needy cancer patients, the Division of Cancer Control of the State Health Department has restated and clarified its policies and procedures concerning the extent of care that can be provided. In the fourteen months the division has been functioning, 703 referrals have been reviewed, a number far greater than was anticipated at the time the program was inaugurated. Of the total number of cases referred, 88.1 percent have proved to be malignant. The amount expended for treatment exceeds $46,000.

As the result of suggestions and recommendations made by the Cancer Committee of the West Virginia State Medical Association, the following policies have been adopted:

(a) Financial assistance can be extended only to those needy cancer patients who present a good prognosis. The division is not to authorize prolonged hospitalization to the incurable case, thereby jeopardizing the treatment of those patients who have a good possibility of cure.

(b) The division cannot assume any financial obligation for treatment or hospitalization of a case until the application has been reviewed and the necessary authorizations issued.

(c) Services and treatment can be given only at approved treatment centers and tumor clinics.

It has been the general policy of the division, since the beginning of the treatment phase of the program on August 15, 1944, to extend financial assistance to those patients who present a good prognosis. In order to use the limited treatment funds to benefit the greatest number of needy cancer patients the division has found it necessary to limit its program to those needy cancer patients who are considered curable.

The Cancer Control Division is directed by statute to carry out a four-point program which provides, (1) education for lay and professional groups; (2) aid in the establishment of tumor diagnostic and treatment clinics; (3) tissue diagnostic service for needy cancer patients; and (4) care for needy cancer patients.

In the short period that cancer control activities have been carried on a great deal of progress has been made in the educational field. Literature is available for free distribution. There is an increasing demand for this cancer educational material and for an interpretation of the program coming from medical societies and lay organizations such as service clubs, parent teacher association groups, business clubs, etc. Aid has been extended and guidance given in several localities where the medical profession is interested in establishing approved tumor clinics. The educational efforts of the Field Army of the American Cancer Society have been correlated and integrated as part of the educational efforts of the division.

Dr. Paul R. Gerhardt, director of the division, feels that increasing emphasis must be placed on the educational phase of the cancer control program because it is by recognition of early symptoms and consultation immediately with the physician that the greatest chance of cure is obtainable. "The practicing physician realizes full well that much

more can be accomplished in the control of cancer when the patient reports to him in the earliest stages of the disease," he says. "If the patient delays consulting his physician when symptoms have presented themselves, that is the responsibility of the patient; however, once that patient presents himself to the physician it then becomes the responsibility of that physician to examine the patient thoroughly to be sure that the early stages of cancer are not present.

"The care of the incurable patient presents a difficult problem. To care for the hopeless incurable is certainly true charity, but it takes funds from those cases which can be cured. Treatment of the disease reduced to the lowest possible cost is expensive. For the division to be compelled to refuse relief to an incurable is difficult. This points to the need for a greater effort in cancer control to educate patients to consult their physicians early, before the condition has reached an incurable stage."

PLAYING CARDS NEEDED

A campaign to obtain 50,000 decks of new or used playing cards that can be used by service men on trains has been inaugurated by the General Federation of Women's Clubs. Mrs. B. A. Johnson, of Glen Ferris, War Service Department chairman for West Virginia, asks that West Virginians contribute to this campaign designed to help millions of returning service men who will be transported across country during the coming months. Decks of cards should be mailed to General Federation Headquarters, 1834 N St., N.W., Washington, D. C., for shipment to Recreation Service, Inc.

AMERICAN THERAPEUTIC SOCIETY MEETS

The American Therapeutic Society will hold its forty-sixth annual meeting in Cincinnati, conjointly with the Southern Medical Association, Sunday and Monday, November 11 and 12, at the Netherland-Plaza Hotel. The scientific program will be presented in its entirety on November 12. The first session will begin at 9 A. M., at the Netherland-Plaza. Two scientific sessions will be held, one in the forenoon and the other at 2 P. M.

The scientific sessions will be open to all practitioners of medicine. All members of the medical profession in West Virginia who are in Cincinnati at the time are invited to attend the meetings.

AMA HOUSE OF DELEGATES TO MEET

The annual meeting of the House of Delegates of the American Medical Association will be held at Chicago, December 3 to 6, 1945, according to notice mailed by Dr. Olin West, secretary, to all state medical associations. The various councils of the Association will meet December 1 and 2.

Dr. W. E. Vest, of Huntington, and Dr. Ivan Fawcett, of Wheeling, will represent the West Virginia State Medical Association as delegates. Dr. James L. Wade, of Parkersburg, and Dr. W. P. Black, of Charleston, are alternate delegates.

MAJOR JOE SAVAGE ACCEPTS POST WITH NATIONAL FOUNDATION

Major Joe W. Savage, for seventeen years executive secretary of the West Virginia State Medical Association, has accepted a position with the National Foundation for Infantile Paralysis, with headquarters at 120 Broadway, New York City. He will work directly under Basil O'Connor, President.

Major Joe W. Savage

Major Savage was released from active duty with the Army Air Forces on September 1, after serving for over three years with the AAF training command for navigators at various air fields in Texas. At the time of his separation, he was director of military training at San Marcos Army Air Field, San Marcos, Texas.

During World War I, Major Savage served as an Army pilot in France for over two years.

Major Savage has had some former experience with the National Foundation. During the March of Dimes campaign in 1941, he was granted a leave from the State Medical Association to assist the National Foundation in the drive. Following four months' service with the Foundation, he continued to be organizational consultant for several months, personally contacting local chapters in every part of the United States.

Major Savage was at Warm Springs, Georgia, several days in September and will enter upon his new duties in New York the first of October.

DR. STEMMERMAN AWARDED FELLOWSHIP

Dr. Marguerite G. Stemmerman, of Huntington, successfully passed the written examination for fellowship in the American College of Chest Physicians, held in June, 1945, and will be awarded her fellowship certificate at the next Convocation of the College in 1946.

ADMISSIONS SOAR AT MEDICAL CENTER

Kanawha Valley Medical Center, at South Charleston, was fifth among the forty-eight rapid treatment centers operating in the United States in admissions in July for primary and secondary syphilis, and first in the admissions of white patients during the same period. The center ranked fourteenth for total admissions of patients for the treatment of syphilis and other venereal diseases.

According to Dr. J. E. Offner, state health commissioner, 365 patients were admitted in July, 105 of whom were in the primary or secondary stage of the disease. The total admissions during the month is the largest for any single month since the center was opened in March 1944, when 102 patients were admitted. A total of 3,935 were treated at the center from that date until August 1, 1945.

DISTRICT HEALTH CONFERENCES

The fall health conference of the southern district will be held at Beckley, October 11, and the conference in the northern district is scheduled for October 19, at Wheeling. Subjects to be discussed at the southern conference include, "Public Health and the Returning Veteran," and, "Sanitation in the Schools." Papers will be presented at the northern district conference on "Public Health in the Rehabilitation Program," and, "Interrelation Between the Field Worker and the State Hygienic Laboratory."

Miss Myrtle Mullins, public health nurse, of Mullens, is chairman of the southern district conference, and J. B. Wallace, sanitarian, of Moundsville, is chairman of the northern district.

NEW STAFF MEMBER AT PINECREST

Dr. Evelyn Bellaire, formerly of Hinton, has accepted appointment as a member of the staff at Pinecrest Sanitarium. She succeeds Dr. William J. Habeeb, who resigned to accept appointment as superintendent and medical director of the Clark County Tuberculosis Sanitarium at Springfield, Ohio.

While serving on the staff at Wollum Lake State Sanatorium, Wollum Lake, Rhode Island, she was commissioned a first lieutenant in the Medical Corps of the Army, and was stationed at Fort DeMoines, Iowa, in charge of the WAC division of that post until her recent honorable discharge from the service.

ARMY TO RELEASE 13,000 DOCTORS

Dr. Robert K. Buford, chairman of Procurement and Assignment Service of the State Medical Association has received a wire from Dr. Paul C. Barton, executive officer of the Central Office at Washington, confirming press reports that the Army will release 13,000 physicians by January 1, 1946, and an additional 17,000 by the following June. Certain specialists, however, will not be released unless they entered on active duty prior to January 1, 1941.

PSYCHIATRIC SEMINARS SCHEDULED FOR THREE WEST VIRGINIA CITIES

The Psychiatric Committee of the West Virginia State Medical Association has completed arrangements for the first of a series of regional seminars on psychiatry to be held in this state under the program adopted by the committee. Night meetings have been scheduled for Morgantown, October 10; Huntington, October 11; and, Bluefield, October 12. The meetings, sponsored by the committee, will be held under the auspices of local medical societies.

The guest speakers, Dr. Wendell Muncie, of Baltimore, and Dr. Dale Cameron, of Bethesda, Maryland, are outstanding in the field of psyciatry. Doctor Muncie was formerly associate professor of psychiatry at Johns Hopkins University. He is the author of a leading textbook, "Psychology and Psychiatry," and is now engaged in private practice. Doctor Cameron is assistant director of the division of mental hygiene of the USPHS.

According to Dr. O. B. Biern, chairman of the committee, the meetings constitute a sincere effort to correlate psychiatry and everyday practice, psychosomatic problems and therapy. "The meetings are unique," he says, "in that it is the first time an attempt has been made by any medical society in the United States to provide through seminars specific information for the practitioners and specialists concerning psychiatry and psychosomatic medicine."

Additional seminars are being arranged for other cities in the state later in the year and early in 1946.

BATTLE OF THE SEXES

The battle of the sexes! It's been going at a merry clip since the days of Adam and Eve, and the reason probably lies in those physical, psychological, and emotional differences that never have and probably never will be settled. How do you account for them?

For example: Men's blood contains less water and more red corpuscles than women, and men also have greater breath capacity. But the pulse-rate of women is faster.

Although the stomach is relatively larger in women and they digest food more quickly, they don't eat as much as males. Women have longer second toes, and "round-headedness" is more characteristic of the females of our species. Size, shape and number of teeth are similar in the sexes, but they are more crowded in female mouths.

The sense of touch is keener in women (touch, referring to the tactile sense) as is the sense of taste. But the sense of balance is somewhat more highly developed among males, while vision is better among females. More men are blind and also deaf than women, but men are believed to hear a greater range of sounds.—Science Digest.

DR. GOLDEN NAMED MEDICAL ADVISOR

Dr. Benjamin I. Golden, of Elkins, was recently appointed chief medical advisor for the West Virginia Department of the American Legion.

CANCER FIELD WORKER APPOINTED

Mrs. Frances Meyer, of Charleston, has been appointed cancer field worker for Kanawha County under the sponsorship of the local chapter of the Field Army of the American Cancer Society. The appointment was announced by Mrs. A. A. Seletz, deputy state commander and commander of the Kanawha County Chapter. The project, which is the first of its kind to be undertaken by the Field Army in West Virginia, will be paid for from funds raised during the 1945 cancer drive.

Mrs. Meyer, who is experienced in the field of public welfare, will do follow-up work with needy cancer patients to make sure that they return to their doctors for follow-up examinations. She will cooperate with and aid city and county health nurses, the health department, and the local department of public assistance to utilize all services available for obtaining care for needy cancer patients.

SLIGHT DECLINE IN BIRTH RATE

A total of 41,556 births were reported in West Virginia for 1944, 21,338 being males and 20,218 females. This is a reduction of 2,986 in the total reported for 1943.

According to the division of vital statistics of the state health department, heart disease accounted for more deaths than any other disease during that year, the total from this cause alone being 3,850. Cancer caused 1,525 deaths; intracranial lesions of vascular origin 1,492; accidents 1,463; pneumonia and influenza 1,207; and, nephritis 1,059.

Tuberculosis took a toll of 758 lives; premature births 604; diarrhea and enteritis 327; and diabetes mellitus 316. Deaths from all other causes totaled 4,063, with a grand total of 16,654 deaths reported for the year.

THE VETERAN MEDICAL OFFICER

Any medical officer whose education was interrupted by service with the armed forces is entitled to the benefits of the G. I. Bill of Rights, according to the Veterans Administration. If he graduated at the age of 25, and served a nine months internship, he will be eligible to accept a residency and receive the emoluments stipulated in the G. I. Bill of Rights. Furthermore, if under that Bill he receives $500 to pay for his tuition, he may spend it as he sees fit, in one month, in two months or over a longer period of time. Therefore, if he wishes to take a refresher course of short duration, he can spend the allotted $500 to pay for that course even if it be of only two weeks' duration. The interpretations made by the authorities of the Veterans Administration of the veterans' rights under this bill are very liberal. Veterans are advised to get a ruling on their case before taking any action.—J. Assn. Med. Colleges.

CLOSE TO THE GODS

Men never come closer to the gods than in giving health to men.—Cicero.

Doctors in the Service

That the Germans have close to a million amputees is one of the many unusual and interesting items reported in a letter just received from Major Seigel W Parks, of Fairmont, who is assigned to a medical battalion now in Germany:

Wurtzburg, Germany
August 26, 1945

Dear Mr. Lively:

Well, it's all over except the waiting to get back home and endeavor to get started over again in the practice of medicine. I know my thoughts are about the same as all the other doctors who have been in the service, and I can assure you that we cannot get back soon enough. It wasn't so bad during the combat periods when we were moderately busy, but since the termination of hostilities here, the sitting around has not been too easy. If we were of some use to ourselves or the army we wouldn't be so discontented, but as it is there is only one thing in view and that is getting home again.

I'm enclosing a pamphlet issued by the Medical Department of the ETO which I thought you would find interesting. The Medical Department has performed its job well and has a right to feel proud of its record. Some of us didn't have too much to do with it, but we can share the pride of those medical units that performed in such an outstanding manner. I refer especially to units such as the field and evacuation hospitals, and the surgical units. We "administrative docs" fought a fine paper war, but had very little to do with the treatment of patients.

At the present time we are administering German hospitals, and since we have been in the Third Army area have had charge of about 80 German hospitals with approximately 30,000 patients, most of whom have been discharged by this time. We are about finished with our job, and ready to go any time we get the word. I can't say much for their surgery as they had entirely too many amputations. I would estimate that they will have close to a million amputees. The German doctors say it was due to the poorly trained doctors in their front line dressing stations.

I was quite interested in Dr. Thomas L. Harris' article in the July issue of The West Virginia Medical Journal, primarily as it also concerns me as well as the other doctors of West Virginia who have spent several years in the service. That portion which referred to post graduate training was of particular interest, as I have become quite rusty on all the advances and changes that have taken place in the last three years.

I had the good news this week that I am to go to London for a two months' course in internal medicine, which will prove to be of great value, but still feel that I would like to take a post graduate course in the states in internal medicine with particular emphasis on gastroenterology.

I read with particular interest John Condry's and John Hash's letters in your column as we were classmates at West Virginia, and it is swell to hear of them, even though it be through the indirect medium of your column. I want to wish all of them the best of luck, and hope that we will all be meeting in West Virginia before so very long.

Sincerely,
Seigel W. Parks.

* * *

According to a press release from the GHQ Public Relations Office at San Francisco, Dr. Cecil W. Shafer, of Spencer, has been promoted to the

rank of Major. Major Shafer is regional service officer for one of the combat teams comprising the 81st Infantry "Wildcat" Division, which last fall wrested Palau and some thirty other Western Caroline Islands from the Japs.

Major Cecil W. Shafer

Capt. Franklin B. Murphy, of Philippi, who has lately been assigned to the regional station hospital at Fort Sheridan, Illinois, has been given an honorable discharge from the army and expects to resume practice in his home community sometime during the fall. Captain Murphy was in Italy for several months with the 62nd Signal Battalion, but returned to the states early in the summer.

* * *

Capt. Eugene R. McNinch, of Weirton, who has been with the 4th Medical Battalion through five campaigns including D-day operations, is now assigned to Camp Butner, North Carolina, awaiting an honorable discharge from the Army.

* * *

Dr. A. P. Hudgins, of Charleston, received a wire from the War Department early in September, advising him that his brother, Capt. John G. Hudgins, had died on shipboard January 26, en route to Japan. The information was furnished the War Department by the International Red Cross.

* * *

Capt. John E. Echols, who was formerly associated with his father, Dr. W. E. Echols, at Richwood, and who has been with the surgical section of the 35th Evacuation Hospital in the ETO, received orders to leave for the Pacific area with his unit two days before V-J day. The orders were rescinded immediately and Captain Echols now hopes to return to the states before winter. He landed with his hospital at Omaha Beach, Normandy, D-day plus 15, and in the fourteen months following his hospital cared for over 27,000 patients.

* * *

A West Virginia physician, Major M. G. Hresan, of Minden, was the first American officer arriving in Poland since 1939. After seeing service in Paris and Berlin, he was assigned to the American Embassy at Warsaw, where he is now serving as physician to the American Ambassador, A. B. Lane, and all of the members of his staff.

Major Hresan writes that he has had several conferences with the minister of health of Poland and that he is gathering data for early publication. He has been in the service since 1942.

* * *

The following interesting letter from Colonel C. F. Fisher, of Clarksburg, commanding officer of the famous 106th Station Hospital, which was the first to land in Europe, was written four days before V-J day and received too late for publication in the September Journal:

10 August, 1945

Dear Mr. Lively:

I will write you more in detail later, but at this moment I have one or two items of interest concerning our hospital. Sometime in this month we will have been overseas two years, first in Africa and then in Italy. Each member of the unit has earned two Battle Stars for participation in the Naples-Foggia and Rome-Arno Campaigns. It has been our good fortune to remain together in all of our work and travels. We are justly proud of the fact that we were the first station hospital in Italy, and of course

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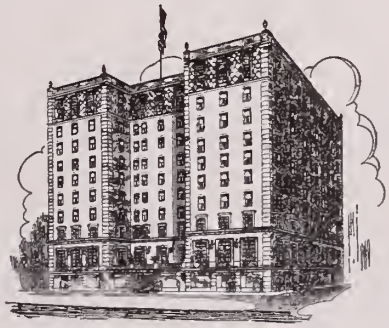

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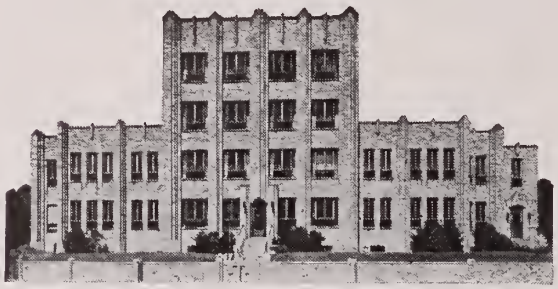

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Clinical Pathology:
*E. E. MYERS, M. D.

Surgery:
HU C. MYERS, M. D.
*LEWELL S. KING, M. D.
GLENN ASHWORTH, M. D.

Medicine:
*EMORY H. MAIN, M. D.

Gynecology and Obstetrics:
EDNA MYERS JEFFREYS, M. D.

Ophthalmology:
*JUNIOR W. MYERS, M. D.

•

Pharmacist:
CRAIG R. WAUGH, B. S. Phar., R. P.

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•

*In Military Service.

Europe as well. Each of our nurses have been promoted, some twice, and as many of the male officers as the T/O will permit.

On June 15, 1945, at a formal Retreat Parade, in Naples, I had the honor of accepting for the unit the Meritorious Service Unit Plaque, awarded us under the provisions of the War Department and by command of General Francis Oxx. In this instance we were the first Station Hospital in Italy, so honored. I would like to quote you the citation:

"The 106th Station Hospital for superior performance of exceptionally difficult tasks and outstanding devotion to duty in the Peninsular Base Section. Superior surgical and medical care were rendered to battle casualties and members of Service Units assigned to them. The 106th Station Hospital cared for numbers of patients far beyond the rated capacity of this unit. Insufficient personnel, and a frequent pooling of personnel, created a versatile and capable team to maintain a high administrative proficiency. The 106th Station Hospital carried medical as well as military traditions in a manner which brings honor to the United States and its Army."

Eleven members will soon receive decorations and awards. The close of the war with Germany has brought us another assignment. The following medical and dental officers of this unit from West Virginia participated in this award:

Lt. Col. Robert W. Lukens, Wheeling; Major Robert Humphries, Clarksburg; Major John McCuskey, Clarksburg; Major Francis Van Horn, Wheeling; Capt. Joseph Gilman, Clarksburg; Capt. Samuel Weisman, Parsons; Lt. Col. Robert H. Jones, Fairmont (now located at Lawson General Hospital, Atlanta); Capt. William H. Allman (now located at Newton D. Baker General Hospital, Martinsburg); Capt. Karl Van Horn, Fairmont (now attached to the 6th General Hospital in Italy); Capt. Raymond B. Nutter, Lumberport (now attached to the 45th General Hospital in Italy); Major Carl McLaughlin, St. Marys (now attached to the 70th Station Hospital in Europe); and Capt. Paul McCuskey, Wheeling (now attached to the 51st Station Hospital in Italy).

The war news today is good and perhaps it won't be too long now. We receive and always enjoy the Journal.

Please accept my sincere regards, and best wishes for your continued success.

C. F. Fisher.

* * *

Dr. Carl B. Hall, of Red Jacket, who is attached to the AAF, Base Unit, at Robins Field, Georgia, has been promoted to the rank of Major.

* * *

Lt. Col. Paul Revercomb, of Charleston, who has been serving with the 318th General Hospital in Hawaii, is now on Saipan, en route to Okinawa.

* * *

Major James G. Ralston, who has been assigned to the 390th Engineer Regiment in the ETO, and who has been on leave visiting his family and friends in Clarksburg and Weston, will be given his honorable discharge from the army early in October. He plans to resume practice at Clarksburg in the very near future.

* * *

Lt. Comdr. W. B. Scherr, of Morgantown, who has been assigned to the U. S. S. Ticonderoga operating in the Pacific, is now stationed at the U. S. Naval Amphibious Base at Little Creek, Virginia.

* * *

Lt. Comdr. Charles S. Duncan, of Huntington, who was placed on the retired list by the Navy July 1, is now a full-time student at the Skin and Cancer Unit of the New York Postgraduate Medi-

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SOME PRACTICAL CONCEPTS OF POLIOMYELITIS

By THOMAS G. FOLSOM, M. D.,
Huntington, West Virginia

The literature dealing with all phases of poliomyelitis is voluminous. An attempt will be made to correlate the prevalent opinions relative to certain aspects of this disease, as they may concern the physicians who are called upon to treat poliomyelitis, at times in epidemic form, in a community such as this. It may be well to bring to date certain principles, not only for the edification of the doctor but also to enable him to help educate a terrified public when the disease is reported in a community.

It is well to use the term "poliomyelitis" instead of "infantile paralysis." The latter term is in itself misleading as the disease can affect persons of all ages and in many cases there is no paralysis. By definition the condition is "an acute infectious disease of virus etiology, characterized by a febrile course with evidence of central nervous system involvement, particularly of the spinal cord, accompanied in a variable proportion of cases, by the development of flaccid paralysis of irregular distribution and extent."

EPIDEMIOLOGY

Poliomyelitis, although occurring at any age, is primarily a disease of childhood, the maximum incidence being reached usually during the late preschool years. About 50 per cent of the cases occur in children under five years of age and 80 per cent in children under ten. Infants under six months of age are rarely affected, even when closely exposed to the disease. The insusceptibility of infants may be attributed to a passive immunity derived from the mother, inasmuch as tests made on the blood of newborn infants have shown the presence of antibodies, when antibodies were present also in the blood of the mother.

Poliomyelitis is a disease of temperate climate, and is infrequently seen in tropical countries. Although sporadic cases may occur at any season, the incidence is highest in late summer and early fall. Over a period of years, outbreaks of epidemic proportion occur at irregular intervals in both urban and rural areas. Recently epidemics appear to have become more frequent.

The epidemic attack rate seldom exceeds one case per thousand general population except in severe outbreaks where a figure of three to five per thousand may be attained. Such a low incidence for a communicable disease may point to an individual factor in susceptibility. Frequently only one child in a family presents evidence of the disease; however, multiple cases in the family are more common than is generally recognized. An inherited familial susceptibility is suggested by Aycock, and very probably exists.

Although resistance to any disease may be diminished by poor health, this tendency is not evident in poliomyelitis. There is no evidence that any specific vitamin lack increases susceptibility, but there is considerable evidence that certain injuries may diminish resistance. The incidence of poliomyelitis, especially that of the bulbar type of the disease, one or two weeks after tonsillectomy may be due to a factor greater than chance. An associated observation is that a large percentage of children with acute poliomyelitis show evidence of pharyngitis or tonsillitis. A coincidence of poliomyelitis in patients with dysentery as well as an incidence of poliomyelitis following dysentery has been noted (August, 1940). The

presence of the virus in pathologic material obtained from victims of the disease has been demonstrated, not only with reference to the spinal cord but to the cerebral cortex, medulla, sympathetic ganglia, nasal mucosa, tonsils and lymph nodes as well; however, its presence has not been demonstrated in the blood or spinal fluid. The virus has been found in the stools of patients in the acute phase of the disease and in stools of contact and healthy carriers. Also, it has been found in the sewage of areas in which the disease is epidemic, as well as in flies collected in such areas.

MODES OF TRANSMISSION

Modes of transmission in the past few years are becoming more clearly defined. Acute cases, abortive cases, convalescent cases and contact carriers may serve to spread the virus. A considerable mass of evidence indicates that the virus may enter the body through the gastro-intestinal tract as well as through the upper respiratory system. Hood has traced the course of the virus directly along the olfactory tracts into the central nervous system. Occasional outbreaks have been traced apparently to milk-borne or water-borne infection. The observation of the presence of the virus in sewage and in stools of patients or carriers is significant. In 1912 Kling, Petterson and Wernstedt obtained the virus of poliomyelitis material from the human intestine and in 1915 Sawyer corroborated this finding. However, these observations lay dormant for twenty-two years until Harmon in 1937 reported six positive tests with colonic washings from a series of 20 cases. Since then routes of inoculation other than the cerebral have been reëmployed and many observers have found the virus in human stools. Trask and Paul have made the following statement: "In stools the virus is active and stable. It appears in abortive as well as in paralytic poliomyelitis; that is, in the common as well as in the classical form of the disease." Convalescent carriers and healthy carriers have been described by them. They have demonstrated the virus in sewage and chemical methods of concentration have been devised which are applicable to the sampling of sewage. They have detected the virus in mass pharyngeal washing, but find it more readily in stools and it seems more persistent in the intestinal tract than in the nose. The virus may be found in stools commonly for days and weeks and occasionally for months. In fact, a convalescent carrier has been described who harbored the virus for one hundred days or more. The "wintering over" of the disease in human beings would supply an adequate reservoir of the virus between epidemics. The positive results with poliomyelitic virus are an index of the large amount of virus which sewage may contain and these observers point to our grossly contaminated waterways as a natural source of virus to which many forms of life other than man are exposed (animal carriers).

Sabin has published his observations on the recovery of virus from flies and concludes:

"I. Either blow-flies or houseflies or both are the prominent species in the virus-containing specimens.

"II. The incidence of positive isolations in monkeys was almost as high as might have been expected if large quantities of stools from paralytic patients had been used, and the isolation of virus from relatively small numbers of flies is strongly suggestive that the flies may be more than passive carriers. The results of nasal instillations of the washings of these flies suggest that little if any of the virus was on the outside of the flies.

"III. Since these are not biting flies, where do they get their virus in cities? Sewers containing infected human feces should be strongly suspected as a source of virus for the flies if the excreta of animals most commonly found in cities could be definitely excluded.

"IV. The habits of these flies are such that they would be likely to transmit the virus to human beings chiefly by contamination of food."

The evidence presented, i. e., that the virus is present in sewage, can be carried by flies, and that the gastro-intestinal portal of entry is the most common, is in direct parallel with our knowledge of the transmission of dysentery, and may be confirmatory with regard to the suspicions of Dr. Gregory Lyon after the study of the 1940 epidemic in Huntington, to the effect that the common fly might be a carrier of the poliomyelitis virus.

It is presumed that the virus moves within the body through the axones of nerves since it has been established that in the experimental animal the virus in contact with an exposed nerve can cause poliomyelitis. Apparently the virus infiltrates the entire nervous system rather rapidly.

COMMUNICABILITY

Transmission and communicability of poliomyelitis are closely related. The incubation period varies from four to eighteen days. Infectivity is thought to be at its height during the latter part of the incubation period and in the preparalytic stage, but as previously stated, the virus may persist for long periods in stools and possibly in the nasopharynx of healthy carriers. The disease is not

readily communicated, however, and if patients are kept in bed with some degree of isolation, cross infections in hospital wards are very rare. Whereas cases of poliomyelitis were formerly accepted only in contagious hospitals, they are now admitted on individual isolation to the general medical wards of an increasing number of institutions. McKhann and Wilson, in an experience embracing over 1000 acute cases, have seen one possible patient to patient cross infection in a hospital. They have, however, observed six instances of nurses acquiring the infection while caring for patients in the acute stage of the disease. This suggests that in dealing with poliomyelitis it is more important for the nurses to know the proper methods of scrubbing their hands than it is for them to wear masks. It is improbable that isolation of patients at home or in hospitals has been effective in reducing the spread of the disease. Probably more attention should be paid to enteric precautions, especially stool examinations for the virus.

Lumsden, in 1938, stated, "The ways of insects, and of many of the lower animals, are not well understood. In the past they should have been and in the future should be studied intensively and extensively in connection with the distribution of poliomyelitis. If poliomyelitis is a contagious disease spread entirely or almost entirely by direct personal contact, it is different in its seasonal incidence from every disease which has been definitely established as a contagious disease, spread in the secretions or discharges from the nose or throat of persons. Its seasonal incidence is different from that of measles, whooping cough, scarlet fever, mumps, diphtheria, influenza and pneumonia, but is much the same as that of typhoid fever, the dysenteries, yellow fever, typhus fever, undulant fever, malaria and rabies."

Geiger, in his report on the 1934 epidemic in San Francisco, presented his observation on 181 close personal contacts of 68 proven cases. The 181 contacts were followed for at least six weeks. Only two of the contacts developed the disease. Ten of the remaining contacts showed, at various periods of time, elevation of temperature, sore throat, muscular pains and malaise; but careful clinical observation and laboratory examination eliminated all as clinical cases of acute poliomyelitis. No mention is made of stool examinations for virus which was probably not done in 1934, so whether or not these ten may have been abortive cases is merely speculative. To continue with Geiger's report: "In the entire outbreak of 1934 there were 122 cases, with 357 direct personal contacts, of which six developed the disease. In 1937 in 11 cases reported over a period of several months, there were 78 contacts, an average of seven per case. These contacts were followed closely for three weeks and no case developed, nor were there any symptoms to indicate a suspicion of the disease. The epidemiologic conclusion, that individual susceptibility among age groups where the susceptibility is considered greatest is practically negligible as a result of contact, appears valid in the light of experience in San Francisco in 1934 and 1937."

QUARANTINE

We come now to the matter of quarantine. The question is frequently asked by physicians: "Of what value is isolation of cases and quarantine of contacts in controlling the spread of poliomyelitis?" The following observers are quoted:

Geiger: "The health official in times of elevated epidemic indices is confronted with the closing of schools, or delaying of the opening, and the closing of swimming pools, theatres, churches, etc., to children of susceptible age. The beneficial effects of any one of these allegedly important quarantine or preventive measures, even when they are put into operation in their entirety, appear to be decidedly controversial."

Nelson: "In view of the large number of unrecognized infected and undoubtedly infectious individuals in the population at large, it must be concluded that control of cases and immediate contacts does little, if anything, to control the spread of this disease. Quarantine may, however, serve to alleviate the enormous apprehension which always exists in the population during an epidemic, and certainly helps to prevent panic."

Trask and Paul: "It seems unlikely that quarantine restriction can be placed effectively on what must be our greatest human source of virus, namely, convalescent abortive cases. No practical method of handling these children is obvious because they are so numerous, and because laboratory control is not feasible. Therefore, until more knowledge is available on this complex subject it seems unwise for the health officer to introduce new methods of control."

There have been instances of high incidence rates in one region or locality for two or more successive years, but as a rule, communities, after having a severe outbreak, have a low incidence rate for one, two or more years thereafter.

The contagion hypothesis holds that it is due to community immunization following the thoroughly spread infection among both susceptibles and nonsusceptibles in the population.

PATHOLOGY

The pathology of poliomyelitis will be briefly summarized and should be borne in mind as it affects the treatment and prognosis in this disease. I might mention that Sister Kenny has stimulated further research into the pathology of this disease, irrespective of the present status of her method of treatment. Some men are now finding sensory changes in poliomyelitis and changes in the intermediate nuclear cells, between the anterior and posterior nerve roots, as suggested by her "alienation hypothesis." In the main, the pathologic changes in the nervous system, indicative of injury or destruction of nerve cells are, in the majority of cases, limited to the anterior horn or motor cells of the cord, predominantly in the cervical and lumbar enlargements and in the medulla. The extent of the pathologic change is far greater than the clinical evidence, particularly of paralysis, would indicate. It is apparent that, pathologically, it is difficult to tell the difference between functioning and nonfunctioning nerve cells, or cells which are injured but recoverable and those which are fatally damaged. As the acute febrile illness subsides, motor cells which have been only slightly injured recover and resume their function, and the cells which have been destroyed are gradually removed. Actual cavitation of the cord may occur following the removal of the degenerated cells by phagocytosis. The nerve trunks derived from the destroyed cells undergo degenerative changes and the innervated muscles gradually atrophy. Intermediate changes between the two processes described also occur.

SYMPTOMS AND SIGNS

The inserted chart taken from Brenneman's "Practice of Pediatrics" is self-explanatory. Time will not permit, nor was it the object of this paper, to go into the problems of differential diagnosis. Suffice it to say that a good working knowledge of poliomyelitis serves to simplify the case as it presents itself to the attending physician.

PROGNOSIS

Fifty to 80 per cent of cases in an epidemic are nonparalytic. This does not take into account the abortive cases, in which the illness stops in the prodromal stage, and which are now probably not diagnosed.

The intensity of the initial symptoms has no constant relationship to the development of paralysis; neither does the degree of fever or the height of the spinal fluid cell count. A nonparalytic course cannot be presumed to have occurred until the temperature has fallen to normal.

CONCLUSION

Numerous controversial topics in the current literature have been discussed in the preceding pages in

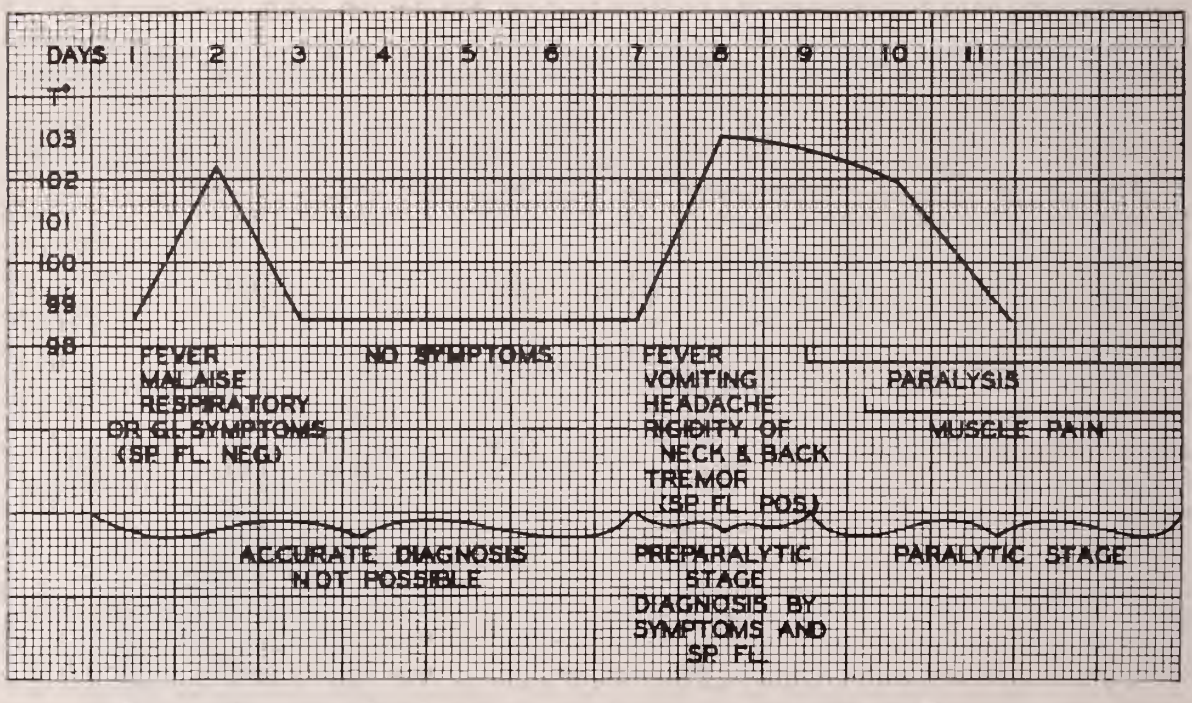

CHART SHOWING SYMPTOMS AND SIGNS IN THE ACUTE STAGES OF POLIOMYELITIS.

an effort to establish a practical viewpoint for the practicing physician as he faces an epidemic of poliomyelitis. Discussion concerning many common phases of this disease has purposely been omitted and may be found in any textbook.

Since so much of the treatment of patients with poliomyelitis falls to the orthopedic surgeon, Dr. Jay L. Hutchison will continue the discussion covering treatment.

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RHEUMATOID ARTHRITIS

In spite of the fact that we have no single proven therapeutic procedure for rheumatoid arthritis, a great deal can be done to alleviate the victims of this disease. Admittedly, physicians should be on the alert for its earliest stages and institute a program of treatment before irreparable damage to joint structures has occurred. The patient has usually had ample opportunity to view the varying degrees of invalidism the disease has produced in some of his fellow citizens, and the gloomy outlook must be dispelled as emphatically as possible. If the sufferer, during his enforced inactivity, has the constant worry of his present and future livelihood, his "rest" may do more harm than good. He should be encouraged to take passive exercises, physiotherapy including heat and massage should be used, and the necessary orthopedic measures should be taken to prevent and correct deformities. He should receive the indicated sedatives and analgesics to promote comfort and rest.—T. Dewey Davis, M. D., in Southern Medical Journal.

CHRONIC ANEMIAS

Certain chronic anemias are difficult to distinguish from nutritional anemia, and are due to an interference of red cell and hemoglobin production by toxins associated with chronic infections, renal disease, or malignancy. When very severe, they are called aplastic anemias, in which blood formation may be reduced to a very low level. Their treatment depends on the removal of the source of the toxemia.—Nassau Medical News.

THE ORTHOPEDIC MANAGEMENT OF POLIOMYELITIS*

By JAY L. HUTCHISON, M. D.,
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It is our feeling that a considerable amount of coöperation between the attending physician and the orthopedic surgeon is essential in the proper treatment and care of a victim of poliomyelitis. It has been our practice in the past to begin the orthopedic management as soon as evidence of muscle tenderness and soreness has appeared. This, of course, in many instances, has been followed by paralysis. In the past the treatment has consisted of application of suitable splints, either wire-canvas-strap arrangements or properly applied plaster molds, care being taken to maintain proper position of the patient in bed and to keep the feet in a neutral position to prevent the formation of contractures which would handicap the patient's recovery. As soon as the acute stage of the illness is over and the muscle tenderness has begun to disappear, it has been the custom to make an adequate analysis of the involved muscles and then direct careful therapeutic measures toward their ultimate recovery. This physiotherapeutic regimen has been characterized by careful attention to avoid stretching and tiring the affected parts. It is also aimed at mobilization of the joints and reëducation of the muscles during the phase in which recovery is going to occur. It is during this stage of the disease that pool treatment for infantile paralysis has produced its outstanding benefits.

We have found that under proper orthopedic management the outlook for the paralyzed victim of poliomyelitis has been far from the bleak picture which is uppermost in the minds of the laity. It is noted that in the first few weeks a considerable degree of recovery occurs in the individual who has not suffered too profound a paralysis of the involved musculature. It has been noted in the past that the greatest extent of the improvement and return of muscle function occurs in the first six months. There is some return of function, however, which occurs for as long as two years afterwards and in some cases muscle improvement has been noted even after a lapse of several years. This is especially prone to follow muscle transplant for correction of existing muscle imbalance. We have been inclined to postpone in a great majority of cases any muscle transplantation or reconstructive work until after a

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lapse of two years from the date of onset of the disease. During the course of the two-year period we have aimed our treatment at preventing formation of any deformities as the result of muscle imbalance of one type or another. We have relied on braces, proper postural training, the correct use of rest, and the application of physiotherapy directed toward reëducating and strengthening those muscles which have been weakened by the disease process.

It is not within the scope of this paper to go into detail regarding orthopedic operative procedures but the principal ones will be mentioned briefly: (1) Correction by cast and stretching of various types of the spinal curvatures, followed by proper fusion procedures to prevent the severe deformities which are frequently seen in poliomyelitis involving the vertebral musculature. (2) The transplantation and substitution of sound muscles for those muscles which have become permanently paralyzed. These transplants are arranged in such a manner as to tend to balance up the muscle pulls about a joint, to prevent deformity at the point in question, thereby increasing function of the part. The transplants are applicable in practically every part of the body but are more prevalently used about the lower extremities and to a lesser extent about the upper. In transplants of the hand because of the intricate function of the muscles involved, reconstruction has not been as satisfactory as in the lower extremities. (3) Operations are aimed at correcting existing deformities in bony structures and replacing these parts in such position that function is improved. Certainly one of the most desirable of these procedures would be that of a subastragalar arthrodesis and various other bone operations about the foot. It is frequently necessary to combine all of these methods and, at times to use splints in addition.

Any discussion of treatment of infantile paralysis at this time must necessarily include a discussion of the Kenny concept of the disease. In order better to understand the Kenny concept of infantile paralysis it would be well to know and understand Sister Kenny and also to understand mass psychology, public interest in matters concerning health and, last but not least, to have an understanding of the part that the newspapers and lay periodicals have played in misleading not only the public but a considerable number of professional men as well. The latter group has been misled not only by newspapers but by medical periodicals and publications of one sort or another, the credit for which belongs mainly to the National Foundation for Infantile Paralysis, Inc. Their work has been carried on largely by Wallace Cole, John F. Pohl and Miland E. Knapp of the University of Minnesota. While there has been the unfortunate side (the undue and, in my opinion, the unmerited publicity given to Sister Kenny), there has been also the beneficial side. It has served to stimulate further study of poliomyelitis by those interested in reviewing some of her exorbitant, erroneous claims.

At this time a brief review of Sister Kenny is apropos. In the "Medical Clinics of North America," July, 1943, Dr. Frank Krusen of the Mayo Clinic states, "In March, 1940, Miss Kenny came to this country with the hope of demonstrating her unique procedure. At that time she had three letters of introduction: one to Mr. Basil O'Connor, President of the National Foundation for Infantile Paralysis, one to The American Medical Association, and one to Dr. Melvin Henderson of the Mayo Clinic. After interviews with influential physicians in New York, later in Chicago, and still later at the Mayo Clinic, Miss Kenny became quite discouraged, as she received very little sympathy from those individuals interviewing her." Apparently Doctor Henderson interviewed her and later sent her to Doctor Krusen who states, "I have listened to her at intervals for two days, and, frankly, I was disappointed in some of the things that she said. When she told me that she could cure the 'toe-drop' of poliomyelitis in twenty-four hours, I was certain that there was something wrong with her observation, and I reported to that effect. However, the facts that the government of Queensland had sponsored her work and that she had a number of clinics completely established in various parts of Australia, and that certain physicians who had watched her work carefully were enthusiastic about it, all made me wonder whether it would not be advisable to observe her work more closely." Doctor Henderson was wise enough to believe that further investigation might be worthwhile. He therefore sent Miss Kenny to Dr. Wallace Cole, Director of the Division of Orthopedic Surgery at the University of Minnesota, and Doctor Cole in turn sent Miss Kenny to Dr. Miland Knapp, the Head of the Department of Physical Therapy of the University of Minnesota.

Doctor Knapp apparently took Miss Kenny into his home and kept her there for a week, listening to her conversation and evidently expressing considerable difficulty in understanding her terms such as spasms, incoördination and mental alienation. Apparently Doctor Cole and Doctor Knapp, after studying some of Sister Kenny's observations, de-

cided that a study of Miss Kenny's procedure should be made. Doctor Krusen was later asked by Mr. O'Connor to serve on a committee to critically evaluate the Kenny Method.

Dr. John F. Pohl, Director of the Infantile Paralysis Clinic at the Minneapolis General Hospital, was the third man to collaborate in the investigation of the Kenny method in Minneapolis. It is notable that Doctor Pohl has become one of Miss Kenny's most enthusiastic advocates and has recently collaborated with her in the publication of a book entitled "The Kenny Concept of Infantile Paralysis and Its Treatment." To Doctor Pohl is attributed the statement, "The tremendous and far reaching advantages of the method over any previously recognized methods of treating infantile paralysis make it imperative that the work of Sister Kenny be made generally known to the physicians of America as quickly as possible." Later Dr. Philip Lewin of Chicago, chairman of a medical committee of the National Foundation for Treatment of Infantile Paralysis, who had previously vigorously opposed the Kenny procedure, after observing it personally, wrote, "The Kenny treatment is one of the most outstanding advances in orthopedic surgery since the time of Hugh Owen Thomas and Sir Robert Jones." With this backing, regular courses were established at the University of Minnesota to train physicians, physiotherapists and nurses in the intimate details of the Kenny technique. Upon this project a considerable amount of money has been spent and its influence has been vast.

According to Dr. Mary S. Sherman of Chicago, there have been a few small outbreaks of poliomyelitis scattered throughout the United States since the first ten cases in Louisiana were noted in 1841. The first major epidemic occurred in 1907 in this country. Since 1907 poliomyelitis has been constantly in evidence and every year brings its epidemic. In order to have a clear concept of and to appraise critically the unfounded statements of Sister Kenny one should recall that Wickman first called attention to the high incidence of nonparalytic poliomyelitis. After observing 1,025 European cases, he conservatively estimated that 25 to 56 per cent of all cases are nonparalytic. This group of nonparalytic cases has been known to vary markedly in the different epidemics, therefore giving rise to confusion as to the exact number of patients who would recover without any particular treatment being directed toward them. Quoting Sherman, "It has also been known for years that epidemics vary not only as to geographic locations but also as to the attack rate, the severity of general symptoms, the incidence of bulbar involvement, the incidence and severity of paralysis and, of course, the mortality. Thus in Scandinavia in 1905 there was a death rate of 15.7 per cent in 1,445 cases. In New York City in 1916 there were 8,991 cases with a 25 per cent mortality. Sydney, Australia, in 1937 had 252 cases with a death rate of less than 1 per cent. In San Antonio in 1942 there was a mortality of 6.9 per cent in only 87 cases. In general the death rates in recent years have been always lower than in the older epidemics." Sherman feels that this is due to recognition of abortive cases, which formerly were not usually reported even when recognized.

I talked with Doctor Trask in 1941 during our epidemic, and he was of the opinion that for every reported case of poliomyelitis there were undoubtedly six or seven people who had had the disease in one form or another but it had not been recognized or diagnosed as poliomyelitis. The percentage of recovery, depending upon as many factors as it does, also varies markedly with the epidemic rather than with the treatment.

Again quoting Sherman on Wickman, who examined 605 of his paralytic patients eighteen months after their acute disease and found 44 per cent of the cases showed marked or complete recovery: "In an epidemic in Kansas in 1923, 75 to 85 per cent of the cases showed marked or complete recovery. In Michigan in 1931 there were 124 cases in which there were 83 complete recoveries (it is noted that 77 of these were nonparalytic). In the Los Angeles epidemic of 1944 there were over 1800 cases. A complete recovery had occurred in 80 per cent in less than one year. In 1941 in Maryland 68 per cent of the patients recovered and 14 per cent had a slight residual weakness. Only 2 per cent of their cases showed complete disability. In the same year in Pennsylvania there were 741 cases, of which 56 ended fatally; 54 per cent of the survivors recovered without residual weakness, 19 per cent of whom were nonparalytic and 35 per cent of whom made a spontaneous recovery from paralysis. Manitoba that year had 966 cases with 1.8 per cent deaths, and in only 10 per cent of all cases was there residual weakness. In all of the above quoted cases the so-called "orthodox" treatment, plus whatever personal variations suited the physician, was used and there was no significant difference that could be related to the type of therapy employed." According to Schien, "The general outlook in paralytic cases, even of the greatest severity, is never so bad as frequently pic-

tured, and one may be fairly optimistic about the ultimate outcome of the ordinary case."

After careful perusal of the literature one would be forced to conclude that many people have broken into print recently with a series of poliomyelitis cases allegedly having been treated by the Kenny method and have been exceedingly inaccurate in their analysis of the cases and in the results which they secured. This is not difficult to see when one remembers that there are marked variations in the severity of different epidemics. The extent of central nervous system involvement is the factor which actually determines the degree of recovery in cases of acute poliomyelitis.

In the Journal of the American Medical Association, June 17, 1944, appears an article which, in my opinion, is a fair and most comprehensive analysis of the value of the Kenny treatment of poliomyelitis. This report is that of a committee consisting of Doctors Ghormley, Compere, Dickson, Funsten, Key, McCarroll and Schumm. This committee was created for the purpose of investigating the Kenny treatment of poliomyelitis at the behest of the Section on Orthopedic Surgery of the American Medical Association in June of 1942. This committee studied first-hand the results at many clinics where the Kenny method was being applied as faithfully as it could possibly be. The committee pertinently brought out the fact that Miss Kenny in her writings, talks, and newspaper articles, states that her treatment is markedly different from what she wants to call the "orthodox" treatment. It is difficult, of course, to understand what she means by "orthodox" treatment. It is pointed out that Lovett in 1917 outlined the treatment which is the basis of most of our modern therapy for poliomyelitis. It is stated that sensitiveness of the patient should be relieved as soon as possible in order to start muscle training. Hot packs and hot baths are given two or three times a day for fifteen minutes. This certainly antedates the hot wet packs of Sister Kenny which are in vogue at the present time.

Muscle training forms the basis of the modern treatment of poliomyelitis. In theory it consists of an attempt to make the patient send a voluntary impulse to contract a muscle. Braces should not be used unnecessarily but they should be used when needed; they are not in any way of therapeutic value but are protective and conservative. It is of interest to note that many of Miss Kenny's concepts have developed since her first book was written in 1937 in which there was no mention of "muscle spasm," "mental alienation," "incoördination," or the use of hot wet packs for treatment. In the preface to the book published by Pohl and Kenny in 1943, she explained this as follows: "I was advised by a medical man that to publish these was an unwise procedure. As a matter of fact, I was informed that my liberty would be endangered as a result of such a statement." This is in general keeping with the personality, as far as I can ascertain, of Miss Kenny. Miss Kenny has an extremely complicated concept of poliomyelitis, the principal points of which are as follows:

(1) Muscle Spasm—She and Doctor Pohl believe that this is a primary lesion in the disease and it is claimed to be mainly responsible for the crippling after-effects. This spasm has been recognized by all those treating poliomyelitis. It has been seen to disappear spontaneously and is certainly not an original discovery of Miss Kenny nor of Doctor Pohl.

(2) Mental Alienation—Again quoting Doctor Pohl: "The flaccid muscles are normal. Loss of ability to contract these muscles is due to functional dissociation (alienation) from the nervous system." The committee felt that the statement "flaccid muscles are normal" was obviously not true. It concluded that mental alienation had been covered in the past by the term "temporary paralysis," "stretch paralysis," and "physiologic dissociation," and these would be a more satisfactory scientific explanation than simple "functional dissociation from the nervous system." This condition which they term "mental alienation" is obviously not a new discovery, having been well described in 1911 by Sir Walter Jones.

(3) Incoördination—Johl states "Incoördination of muscle action appears in the untreated cases." It was the committee's opinion that the muscle substitution or mass muscle action of an extremity which has been long recognized by orthopedic surgeons covers adequately the term of incoördination and that, as a matter of fact, the term "muscle incoördination" was first used by Wilbur to describe this condition as early as 1912.

(4) Paralysis ("denervation" now preferred by Kenny)—Pohl states: "Paralysis due to nerve cell death occurs but is not a common condition. Most supposed weakness is due to untreated spasm and disuse in the dissociated muscles." It was the committee's feeling after analyzing this statement that if deformities are prevented the flaccid paralysis caused by destruction of nerve cells is the most important cause of crippling.

The committee further reported that from their

observation the Kenny treatment consisted of the following:

1. Active treatment, including muscle reëducation, is begun as early as possible.

2. The patient is maintained in the normal standing position in bed.

3. "Spasm" and pain are managed by the use of hot foments. These are applied and reapplied continuously for about twelve hours per day according to a rigid technic. They are continued until "spasm" is relieved.

4. The extremities are carried through as wide a range of movement as can be tolerated several times each day.

5. Muscle reëducation is begun as early as possible, this being directed toward (a) the restoration of mental awareness of muscles," (b) "restoration of coördination or combating of incoördination," and (c) "restoration of muscle function."

6. No splints or braces are used.

7. The respirator should not be used on any patient.

8. Patients and their families are encouraged to believe that complete recovery will ensue, or, in the event of residual paralysis, that the Kenny treatment was not instituted early enough or had been improperly administered.

9. All improvement is attributed to the treatment and no spontaneous recovery or improvement is recognized.

10. Balneotherapy is an important adjunct to the foregoing procedures.

From personal observation of this committee during the past two years, its members analyzed the ten points as follows:

1. The institution of treatment directed toward the involved muscles as early as possible is desirable, but the general condition of the patient during the acute febrile stage may be such that the handling necessitated by the Kenny treatment can be detrimental.

2. Proper positioning in bed by one means or another has been a standard practice among physicians for over thirty years. It is still a recommended procedure.

3. Heat in some form, including hot foments, has been used by physicians for many years to combat pain in poliomyelitis. Recovery from "spasm" in most instances takes place spontaneously. It is felt that rest would relieve this spasm as well as hot packs. In some cases the spasm was actually relieved after the Kenny packs were discontinued, the conclusion being that the use of hot foments therefore cannot be considered as a panacea in this disease and their use must be guided by good medical judgment. The rigid technic insisted on by Miss Kenny in the applications of these packs is neither important nor essential.

4. So long as active and passive movement of these extremities is carried out within the range of comfort, this point is acceptable. This procedure has been recommended by many physicians in the past, but again we stress the point that this movement should not be forced beyond the point of pain.

5. Jones and Lovett described and used a method of muscle reëducation which, in principle, is similar to the method taught by Miss Kenny. This has served as the basis for orthopedic treatment for many years.

6. Cases have been seen under Kenny treatment in which early contractures were developing and by application of plaster splints these contractures were controlled after their correction. (This is certainly true in our individual experience with the work, it having been necessary frequently to substitute the braces to prevent severe footdrop and equinus deformity in the patients who do not maintain their feet in contact with the Kenny board.)

7. Respirators have saved many lives and should be used for patients with sufficient paralysis to embarrass respiration.

8. There is no evidence that the Kenny treatment prevents or decreases the amount of paralysis.

9. Spontaneous recovery in poliomyelitis occurs in many cases. Reports in the medical literature indicate that this varies in different epidemics from 50 to 80 per cent. We have seen many patients receiving Kenny treatment who showed no muscle involvement at any time, yet she assumes the credit for their satisfactory results and does not take into account the factor of spontaneous recovery.

10. Pools and baths have long been used in the treatment of poliomyelitis. The committee further vigorously condemned the failure of Miss Kenny to do adequate muscle examination on patients who receive her treatment. It is very obvious that there is a large element of error in evaluating the efficacy of her treatment as introduced by this one difference between her method and the so-called "orthodox" method of treatment. It is also interesting to note that apparently Miss Kenny is the only one who feels that these muscle examinations are harmful.

It was felt that Miss Kenny's statement to the effect that under "orthodox" treatment only 13 per cent of the patients recover without paralysis (which has been quoted from an article by H. R. Carroll and C. H. Crego), while under her treatment over 80 per cent recover, was extremely unfair and a deliberate misrepresentation of facts. It is to be remembered that if every case in an epidemic is included in the statistics, recovery of from 70 to 90 per cent can be expected from the so-called orthodox method.

There is no background for the feeling that paralysis can be prevented when the Kenny treatment is started early. The amount of residual paralysis in any case of poliomyelitis is dependent upon the amount of destruction in the central nervous system if deformities are prevented, and this varies greatly in different epidemics.

There may be some local changes in isolated muscles during the acute stage, the nature of which must be studied further.

The committee felt that the continuous use of hot packs for all patients with minimal evidence of "spasm" was of questionable value and an unnecessary waste of manpower and hospital beds.

Miss Kenny has laid claim recently to a new and revolutionary discovery by means of which she can diagnose the disease and determine the involved extremities prior to the onset of the usually recognized diagnostic clinical signs. She also claims that the institution of her treatment at this time will control the pain and prevent paralysis. She has stated that this is her greatest single contribution. It was felt that there was no satisfactory evidence presented to the committee that the institution of early local treatment will alter the course or the exent of the paralysis in any case. Many of those who have used the Kenny method of treatment have repeatedly stated that all paralytic scoliosis can be prevented by this program of care. It was felt that this conclusion was not warranted because severe paralytic scoliosis occurs only in growing children and is uncommon within less than three years after the onset of the disease. In other words several more years should elapse before any final conclusion could be reached with regard to the amelioration or prevention of paralytic scoliosis by means of the Kenny treatment.

In conclusion the committee disapproves and condemns most severely the wide publicity which has misled the public and many members of the medical profession. It acknowledges that the Kenny episode has stimulated the medical profession to re-evaluate known methods of treatment of this disease and to treat it more effectively.

The conclusion which I am forced to reach at this time is that there is still much room for improvement in the treatment of poliomyelitis regardless of Sister Kenny, and that the management of a case of poliomyelitis still requires considerable coördination between the attending physician and the orthopedist, plus a large amount of judgment and time-proven orthopedic measures.

At present we have under treatment approximately 25 to 30 patients with acute poliomyelitis who are receiving a certain amount of management and care designed after the original Kenny concept. Though accurate analysis has not yet been made, it is my feeling that recovery in these cases is no better than when "orthodox" methods were used in the 1941 epidemic.

I do feel that at times Kenny packs are beneficial but they are certainly troublesome and require a large number of nursing aids to be administered properly and, frankly, I am not so sure that their use will continue after the present undue publicity given to Sister Kenny's method has subsided. The treatment of poliomyelitis still is to be guided by carefully selected, time-proven methods.

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RATE OF AGING VARIABLE

Aging is a series of processes. Aging can be considered the dimension of time in living. It is an integral and inseparable part of living, beginning with conception and terminating only with death. As aging is continuous and gradual, there can be no sharp lines of demarkation. The rate of aging is variable; variation occurs between different phases of development, maturation and senescence. As a result, no one is necessarily the same physiologic age throughout. An individual's age, therefore, is the mean of the various ages of his many component structures and functional capacities.—Edward J. Stieglitz, M. D., in New York Medicine.

INTRAPAPILLARY RENAL CALCULI

By RALPH U. WHIPPLE, M. D.,*
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Recently I had occasion to remove a kidney of unusual interest. Upon bisecting the organ the lower major calyx was seen to contain a papilla studded with many small calculi. As the gross contour of the papilla was well preserved the specimen suggested the possibility of intratubular or intertubular calculus formation in contradistinction to the ultimate result of calculus formation through a gradual process of erosion and penetration from the calyceal surface. As this was the first time I had seen such a pathological entity I turned to a review of the literature for confirmation. The search, though far from complete, revealed a paucity of material on the subject and therefore I feel this isolated case merits reporting.

Mrs M. H., a 21-year-old housewife was referred to the surgical service of the Davis Memorial Hospital with a tentative diagnosis of acute appendicitis. Twenty-four hours prior to admission the patient noticed the gradual onset of a right lower quadrant pain associated with nausea but no vomiting. Further questioning brought out the fact that she had had intermittent right flank pains ever since her first pregnancy two and one-half years ago. These attacks had been associated with frequency and burning on urination and when particularly severe had been accompanied by fever and chills. The rest of her past history and system review was essentially negative.

She was a young, well developed and well nourished woman with a flushed complexion and appearing acutely ill. The temperature on admission was 99.6 F.; pulse 92; and respiration 20. The tongue was dry and coated, the teeth in good condition, and the tonsils hypertrophied. The lung fields were clear and the heart clinically normal. The blood pressure was 122 systolic and 70 diastolic. The patient tended to splint the right lower quadrant but upon gentle distraction she would relax sufficiently for one to detect a smooth, mobile, globular and slightly tender mass about the size and contour of an average kidney. No other masses, spasm, rigidity or rebound tenderness were noted. The pelvic examination was normal and the reflexes physiological.

The urine was amber, hazy, acid, and sugar free, with a specific gravity of 1.014; albumen (1 plus) was present and many pus cells and an occasional erythrocyte were seen per high power field on microscopic inspection. The hemoglobin was 100 per cent; the red blood count 4,900,000; the white blood count 6,600 with 77 per cent polymorphonuclear cells and 23 per cent lymphocytes. The blood urea nitrogen was recorded at 11 milligrams per 100 cc., and the serology was negative.

A No. 24 French McCarthy panendoscope was passed with ease revealing the trigone, ureteral orifices and bladder mucosa to be grossly natural. Five cc. of indigo carmine given intravenously was excreted in normal concentration from the left side but only a questionable trace was seen on the right. A catheter passed readily to the left renal pelvis but all efforts to catheterize the right side were blocked at 3 cm. However, the manipulation dislodged considerable detritus. A scout plate showed the right catheter obstructed by a 1 cm. calculus; at approximately 6 to 8 cm. farther up the right ureter were seen two more opacities. The right renal shadow was in normal position but somewhat larger than the left. In the approximate region of the right pelvis an oval opacity about 1.5 cm. in diameter was seen and also in the lower pole in the approximate region of the major calyx numerous smaller opacities were noted. Specimens from the left kidney were normal and the retrograde study visualized within normal limits.

Figure 1. Scout plate. Arrows point towards the right lower ureteral calculi. A large calculus is seen in the pelvis of the right kidney and many smaller stones clustered about the region of the lower pole.

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Fearing the postoperative complication of a pyoureter if nephrectomy was attempted initially, it was deemed safest to remove the lower ureteral calculi first thereby establishing early drainage of the upper tract and at the same time permitting further study of this kidney. A scout plate taken immediately preoperatively showed no change in the position of the ureteral calculi (fig. 1). Under spinal anesthesia the right lower ureter was visualized through a suprapubic, right medial rectus rolling, extraperitoneal incision. The calculi were removed with relative ease permitting a No. 7 ureteral catheter to pass readily to both the renal pelvis and the bladder. The wound was closed in layers about a soft rubber drainage tube and the patient returned to her bed in good condition. The calculi, three in number, were irregular, stony hard and golden brown in color. The postoperative course was uneventful and on the seventh day further study was carried out by means of cystoscopy.

On this examination the right ureteral orifice appeared edematous. However a No. 7 ureteral catheter passed to the pelvis with ease securing good drainage and four plus indigo carmine concentration in five minutes (normal function). The specimen showed 6 to 8 pus cells per high power field and a reaction of pH 5.5 to nitrazine paper. On retrograde study the large (1.5 cm.) calculus was concealed in the pelvis and the numerous small calculi in the region of the lower major calyx seemed to be intrapapillary (fig. 2). In the hope of shedding more light on the problem a retrograde aerogram was performed. This visualized the large pelvic calculus clearly but still left us with the same impression regarding the smaller stones (fig. 3). As this young woman's difficulties probably began during her pregnancy, and to avoid a recurrence during subsequent possible pregnancies, nephrectomy was recommended.

Figure 2. A retrograde study of the right upper tract on the seventh post-operative day shows a moderate degree of hydronephrosis. The smaller renal calculi seem to be situated in the parenchyma about the lower major calyx.

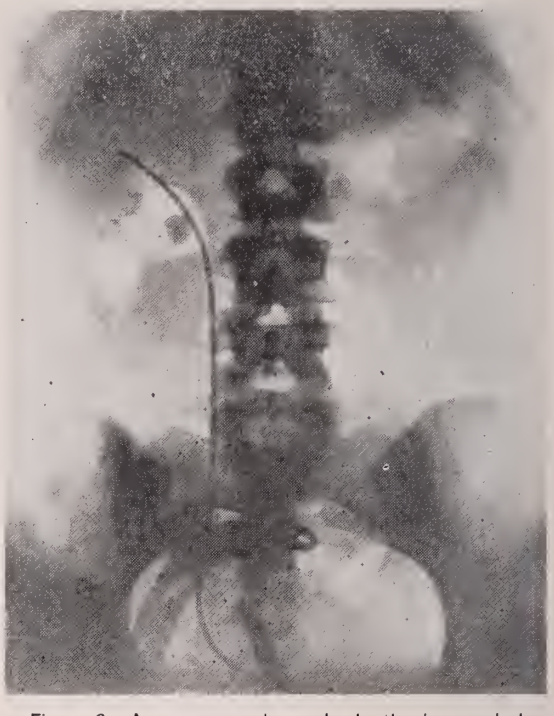

Figure 3. An aerogram shows clearly the large calculus resting in the pelvis supports our opinion about the multiple, smaller calculi situated in the renal substance.

Under ether anesthesia the right kidney was approached through a classical 12th subcostal, muscle-sectioning, retroperitoneal incision, care being taken to avoid the 12th nerve and blood vessels. Many perirenal adhesions were encountered on opening Gerota's capsule although the renal surface appeared relatively natural. The ureter was sectioned in the region of the pelvic brim and this was followed by double ligation and section of the renal pedicle. The wound was closed in layers about a soft rubber tube drain. Once again the convalescence was uneventful and by the twelfth postoperative day all sutures were out and the patient up and about. At the time of discharge both wounds were firm. The urine showed a few pus cells per high power field. Subsequent visits revealed a clinically cured and asymptomatic patient with normal urine.

The pathological specimen was a kidney of average size and contour. The capsule was smooth and glistening and stripped with ease. On section the medulla and cortex were clearly demarcated and of average thickness. The pelvis was ample and the calyces slightly enlarged. The mucosal lining was grossly normal except in the region of the lower major papilla where it was thickened and fibrotic. The papilla itself was a fibrotic honey-combed network of cellules, each containing a hard, smooth, oval dark greenish-brown calculus. The large calculus resting in the pelvis was hard, smooth and light brown. Section study with the exception of the lower major papilla showed well preserved renal parenchyma with scattered areas of polymorphonuclear infiltration. In the pathological papilla the normal structure had been largely displaced by fibroblastic formation with scattered areas of lymphocytic infiltration. No areas of caseous necrosis or giant cell formation were noted. Diagnosis: Acute pyelonephritis and chronic papillary fibrosis with retention calculi.

COMMENT

To date only the crust has been penetrated in the realm of renal lithiasis formation. Many theories have been proposed but none are without their vulnerable points. Some of the most commonly held concepts adopt for their working basis one of the following causes: (1) stasis predisposing towards sedimentation about a nidus, (2) infection, especially when supplemented by stasis, (3) vitamin deficiency, (4) colloid imbalance resulting in crystalloids precipitating out of solution and (5) hyperparathyroidism.

Albright records a case of pyelonephritis with nephrocalcinosis, a type hitherto undescribed, in which the delicate H. influenza bacillus, an ammonia-forming organism, produced an alkaline urine leading to calcium precipitation within the renal parenchyma. Sulfonamide therapy eliminated the bacillus and there was a return of the urine pH to the acid side. He also cites an isolated case of calcification occurring within the renal tubules of the papilla in a case which responded favorably to vitamin D, sodium citrate and a low salt diet. However, as the blood chemistry studies pointed towards the presence of rickets no generalities can be deduced. Muschat reports a case of parenchymal calculosis in which he believes the tubular epithelium multiplied to the point of obstruction followed by the formation of a fibrin mass of degenerated cells. This organic material continually bathed by urine served as a nidas for the deposition of calcium and magnesium phosphates explaining the formation of calculi with a brown or organic center surrounded by a shell of hard minerals. Wohl also reports an isolated case of extensive calcification of both kidneys chiefly involving the pyramids in a 11-year-old boy. Goldstein in his complete review of the literature on renal calcification expresses the view that tissue undergoing localized changes such as fatty degeneration, hyalinization or necrosis due to toxic, circulatory or metabolic factors may become infiltrated with calcium salts. Crabtree records three cases of tubular calcification in all of which obstruction as well as infection was present. He further states that tubular stones are not infrequent when more than a casual effort is made to detect them. He quotes Quinby's belief that the etiology starts with a tissue necrosis secondary to local ischemia.

To return to the more specific subject of papillary lithiasis one must place Randall's startling contribution in a key position. He has postulated that there must be an initiating lesion and that such a lesion has been found in the renal papilla of 17 per cent of 429 routine autopsies. The lesion seems to be initiated by necrosis and degeneration occurring in the basement membrane of the collecting tubules and extending through the intertubular spaces. The calcium deposition apparently occurs quite similar to that seen in the subintimal plaques of early arteriosclerosis. In time the epithelium sloughs exposing the plaque to a constant urinary bath and thereby serving as a nidus for calcium salt precipitation. At some point in its growth it will break away by virtue of its very weight and become a free calculus resting in the calyx of its origin. In his experimental work Randall pointed out that the rat's kidney concentrates bacterial toxins producing a tissue destruction most marked in the terminal tubules of the papilla. Microscopic study and cultures of these lesions showed no pyogenic organisms as an etiological basis.

Randall also describes another less common mode of calculus formation wherein calcium inspissation occurs within the tubule. He feels this type is probably secondary to some factor such as infection, metabolic, dietary or glandular disturbance. Cultures were positive in 42 per cent of the cases and the microscopic study shows degenerative desquamation and marked fibrosis. Anderson supports Randall in reporting calcium deposits in 12 per cent of 1500 autopsies in which both the subepithelial plaques and the calcified tubular casts were found. Rosenow also substantiates Randall with the exception that he recovered bacteria in a high percentage of the cases

in spite of the absence of an acute inflammatory picture. Yunck, while in essential agreement with Randall, states, as in the case recorded here, a 65 per cent incidence of lower calyceal involvement.

SUMMARY

An unusual case of intrapapillary calculi of the kidney is presented. The literature has been found to be rather meagre upon this subject. A discussion of the latest theories most likely to explain this entity has been briefly offered.

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DECREASE IN CANCER MORTALITY

That mortality from cancer, particularly among women, is beginning to come under control is indicated by a study made by the Metropolitan Life Insurance Company. In the past decade, the age-adjusted death rate from this disease among insured white females dropped 11 percent at ages 1 to 74 years. Virtually every important age group shared in the improvement. The current mortality from the disease among women in the broad age range 35 to 64 is the lowest in a third of a century, having dropped by one fifth during that period.

A favorable indication is also noted among white males. The upward trend which has been manifested for many years has been stemmed. During the past decade, at no age beyond 24 years has the cancer death rate among these men shown any increase, and at some age periods the mortality has recently tended downward.

"OUR WARTIME CHILDREN"*

By JULES I. KLEIN, M. D.,
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Probably most of us are now beginning to realize that World War II is the logical outcome of a mass psychosis, a sort of racial megalomania, afflicting the Axis peoples, and that much of their mass national psychology is the result of deliberate and directed training of the youth segment of the present generation. Such youth training is, of course, directed into malicious channels and has resulted in plunging Old Mother Earth into a welter of blood and a maelstrom of slaughter. Our entire lives, certainly for the time being, have been completely dislocated, and especially is this the case with those below the age of fifty. The psychological result of all this turmoil, strife, and sorrow upon our children poses a tremendous problem for our physicians of today. How shall we meet it?

What part can the physician play in helping the developing mind in our growing infant and child to adjust to the emotional and mental shock of war?

THE PROBLEMS INVOLVED

A few weeks ago Mrs. S. brought her 3-year-old daughter to my office for a routine physical examination. In the course of our conversation she mentioned the problem of the war and its effect in her home. Her son, age 8, had often asked if "daddy would have to go to war." She explained to him that the possibility existed. The boy then began to cry, but after he had been quieted said, "I'm going to miss him, but I guess a lot of daddies will have to go." Since that time, discussions of the war and its possible effect on this family have taken place between the mother and son. The child has known security, happiness, contentment, not only in his father, but with his mother as well. The thought that this source of security might be removed had aroused fear and with it a problem entirely new to so young a mind. On the other hand, the situation is quite different with her daughter, only three, whose entire confidence rests in her father. She is "daddy's girl," and any hope of supplanting this feeling at the present time would be futile. And yet, when daddy does go, mother will have to fill the gap between daughter and father. A sensible approach must be made by both parents if this child is to retain any of her feeling of security.

But the solution is not as simple as that. Mr. S. has had a good job, provided for the family needs,

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given that sense of security that each member has cherished. His mind has been at ease, but now there is confusion, uncertainty, fear. There is an infant, age six months, in addition to the other members. All finances in this short period of prosperity have gone toward cancelling old debts. True, a little has been put aside in savings, but not enough to provide for an indefinite time. What is he to do? How will he provide? Fear with all its consequences haunts his every thought.

Mother, on the other hand, wants to begin preparing the daughter for that fateful time when daddy has to go. But here, too, fear has forced its way. How will she provide? With an infant to care for, work is out of the question. And yet they all must live!

Allow me to present the facts relative to another family. Mr. A. has been employed in office work. With the pressing need for workers in war industries, he secured a job at the local ordnance plant. Mrs. A., who had formerly worked in the same office as that of her husband, returned there to fill the position of her husband. But in all this change, their 2-year-old daughter had been completely forgotten. How could all this shifting of positions possibly affect her? And yet, Mary was the one in this family of three whose life was most changed. True, a girl was hired to care for Mary. Her physical needs were provided for, there was someone to tuck her in at night, her bath was given. But emotionally and mentally a change was taking place. Formerly, her daily routine had been free of complications, and her actions were those of a carefree, happy, playful child. Now Mary was fretful, had a poor appetite, slept restlessly. Each day, as Mrs. A. prepared to leave for the office, there was a scene. Mary cried, held to her mother's coat, childishly begged her mother not to leave her. This in spite of the fact that the attendant showed Mary every act of love, tried to reassure her, and to gain her confidence. Uncertainty, fear, and insecurity had entered the child's life suddenly, and influenced her every action. No one could substitute for mother. *One* child does not require the love of *two* mothers. She had not been prepared for such a change, and had reacted accordingly.

This reaction has been shown conclusively in England where not only have the parent and child been separated, but, more tragically, where homes have been destroyed, parents killed or lost, and the child left to the mercy of the Hampstead nurseries. Freud and Burlington present evidence in case reports to prove that it is not so much the fact of separation to which the child reacts abnormally as the *form* in which the separation has taken place.[1]

These actual histories of two local families, and they can be multiplied many times in each village and town throughout the land, present some of the acute problems of the war and their effect not only on our children of today, but on the family of today as well. And the physician, as family health guardian, is in a position to exert influence on lightening the emotional and mental, as well as the physical burden of his patient with a free, careful, understandable discussion that many parents require. Parents particularly feel the full impact of war, and their adjustments will in turn determine the reactions of their children. Anxiety for the safety and welfare of their children exists in the minds of all parents.

Dealing only with children, the pediatrician is well aware of the importance of proper understanding of this problem by the civilian population. We know today that the mental health of a child is just as important as his physical well being and, at times, more so; for the former may determine the latter. The Committee on Mental Health of the American Academy of Pediatrics has prepared reports on the subject.[2] Numerous articles have appeared in the literature, and the subject has been discussed at all pediatric meetings. The Academy motion picture, "When Bobby Goes to School," states, "Today life is faster; competition is keener; our young people need every advantage we can give them. As parents it is our privilege and responsibility to do everything in our power to equip these young men and young women of tomorrow so that they will be able to make their way in the world. This is no simple task. Parents, teachers, physicians, all must coöperate if the child is to have his rightful heritage, . . . a sound mind in a sound body."[3]

EDUCATIONAL INFLUENCES

Thus the educator, taking the child in his formative years, must play a most important part in developing this sound mind in a sound body. The future status of our educational system may require a definite and drastic change if we are to entertain any hope of lasting peace. This may also mean a change in our cultural view of education. We must not forget that we have a responsibility in seeing that we produce good citizens as well as healthy individuals. The hands through the mind must be trained for productive roles, and it is my belief that this teaching should begin in the preschool age. The train-

ing our children receive in this age period will determine in the larger part the type of training our schools will be able to continue. Knowledge and reason play only a limited part in the young child's life,[1] but training will leave its indelible marks.

The dictator nations realize the importance of preschool training. The recent picture, "Hitler's Children," portrays the 3-year-old boy responding to the question, "And what are you going to be when you grow up?" "I'm going to be a member of the storm troopers"; and his 5-year-old brother, "I'm going to be a pilot and drop bombs on the enemies of Germany." Their educational system will follow up this path of training, and each will die a glorious death for his fuehrer. Training, not knowledge or reason, happens to be the present-day program for the youth of Germany. The folly of this system we all realize; but the important thing to remember is that training begins literally in infancy. If so much harm can be taught to children, certainly a greater amount of good can be inculcated as well. If we neglect making this change now, during wartime, our task will be much more difficult and our responsibility much greater when the war is over. The Axis children will constitute one of the most disturbing aftermaths of World War II. Our mistakes are evident; we must not make them again. The time to begin is now.

THE INFANT

We can expect certain reactions from children, depending on their age. The infant, since the beginning of time, has reflected the attitude of his parent, especially his mother. If the parental attitude is one of uncertainty, deceit, and fear, our future generations will in turn show the same feelings.

It has always been my belief that our knowledge of infant psychology has been ignored when we actually deal with infants. Life for the individual begins when the umbilical cord is tied and the first breath taken. And it is at that time that the emotional and mental as well as the physical aspect of every human being begins. Unless we realize this, a large and important basis for our hope for future peace will never become a reality. The winning of the war must be foremost in our minds, but the welfare of our future generations depends also on our actions today.

Once the parental possibility becomes a reality, once that howling, vigorous, breathing bundle of energy is seen and fondled by mother and father alike, I have faith that each and every parent can be taught to raise a healthy and helpful citizen of this country. I believe this because I have seen parents from the mines bring their ill, failing, almost lifeless infant into my office. And whether they come from the lower strata or the upper class, they all have the same attitude: this is our own flesh and blood, our child; we love this child; please, please do something for it, so that we may once again hear that cry of action, see that smile of life. The expression of this thought may not be adequate with each, the words depending on their education, but the look in their eyes is the same. And it gives one hope, hope that there is a future for America and the world; hope for more than a phrase—"peace in our time."

If this period of infancy can mean so much as a foundation for our future lives, why then do we not take advantage of our ability? We have become so scientific in our care of the infant that we have forgotten the infant itself. We must forget about the forest temporarily, and examine each tree that makes up the composite picture.

Many of life's problems begin in infancy. If one watches a newborn child, one will see the ease and freedom of movement given to him. Restrain him, and his howling demand to be free again will be heard. His only desires in life are to sleep and eat. And if these desires are not fulfilled, that bundle of energy will not rest. But the look on his face when satisfied—contentment, security, peace! A physical action has determined the infant's emotional and mental response. Here, then, begin the qualities of our future generation. Each hour, each day, each month there is added to this personality those qualities as we see fit. In our hands lies a world's dream!

This carefree, natural period of infancy that God has granted to every human being is the foundation for the life of each of us. For after infancy, the molding of our natural ability and desires will depend on the approach each infant has to society and the world. Now, really, begins the period when parents can exert the most influence on the child. The whys, hows, wheres, whens, and whats that the preschool child presents to an adult demand an answer. And that answer will, for the most part, determine in turn the child's response to this new situation or fact. Here, then, the pattern for life will be molded. Whereas the infant demanded only the appeasement of hunger and, of course, the triangle of cleanliness, the child now begins to realize that there is a social world that inflicts certain hardships. For each individual to live in harmony with his fellowmen, certain do's and dont's have been

evolved. His growing mind at first cannot comprehend the meaning of all this restraint. The complications of Mrs. A's daughter have made themselves felt. And now that we are at war, the role of his source of understanding and comfort, his parents, becomes increasingly difficult. The ordinary problems of life are complicated by the existence of a national emergency. The former independence of our way of living must for the time be sacrificed. And not only must this child conform to that way physically, he must be prepared for it emotionally and mentally.

THE PRE-SCHOOL CHILD

The pre-school child finds security only with his parent. War with all its hardships and problems has no part in his world. But the reaction of war on the foundation of his security, his parent, threatens his world. And any undue apprehension on the parent's part has its effect on the child himself. Therefore, it is most important that a feeling of harmony and good will exist in the family; ideas must be interchanged, fears admitted, and problems discussed. Below the pre-school age, most ideas are obtained by imitation and association. A pleasant association elicits a pleasant response; the opposite reaps its ill effects. Dr. Bert, I. Beverly has stated this most sensibly: "Parents should appraise the immediate situation in which they find themselves. First, they should see to it that they and their families are animated by a single-mindedness directed to the national aims and the support of the government in its determined efforts. Then they should adjudge the war situation in their own community and home in order to determine as nearly as possible the probable risks, dangers, and changes in routine that will take place, so that precautions can then be taken and plans can be made for eventualities which may come. By these means parents can gain a clear idea of the common goals and plan efficiently for the part they will as individuals probably play to make them attainable."[2] The physician in the office or in the home must make sure that parents take cognizance of these facts.

THE SCHOOL AGE CHILD

When we concern ourselves with the school age child, the reactions felt are more controllable. The child ready for school carries with him the feelings of his early childhood; but he also begins to show signs of mental development. Now knowledge and reason begin to creep into the horizon. This mental development emerges in action. All the world is a stage for him; he is to be the actor. The act itself depends on his subject. War now becomes a play game: there are guns to shoot, tanks to drive, planes to fly, uniforms to wear, squads to form, commands to give, the enemy to meet; yes, Japs to kill! Here for the first time, in his own imaginative, yet playful mood, he has the feeling of kill-or-be-killed. His only fear in play is that he may be killed; a bullet to dodge, a bomb to hide from, the enemy to kill. The fear is present, but after he has performed the act, the danger *for the present* is removed, and a new task begins. According to British information, the fears and anxieties are fewer and much less serious between the ages of eight and twelve, than is the case in either the pre-school or adolescent age.[2]

But here again, the physician can do much to alleviate any fear in the minds of our children and parents that life is composed of uncertainties and fears. It has been most interesting to me to hear time and again in discussions on music, religion, education, agriculture, and science, the idea by some one at some time that perhaps the solution to many of our problems today would be found if we could go back to our school days.

In William Linsey White's book, "Journey for Margaret," which is the story of the bombing of London and its effect on school age Margaret, each time a situation arose that Margaret could not understand, and the explanation was given that this had not always existed, but because of the war it had to be so, Margaret replied, "Will I see? Will I see?" Yes, it remains with us to assure all Margarets everywhere that they will see once again, they will see! And being assured of that, children will face the war and its aftermath without fear that all is lost.

THE ADOLESCENT

The present day adolescent is perhaps the most serious immediate problem. His parental attitude from infancy, his imitation and association of pre-school age, and his actions of early school days have been formed. These along with his teaching have formed his mental health. And now his whole world is suddenly changed. He has grown and developed in an environment of peace. Healthy individuals with healthy minds as well as bodies do not have to settle their differences on the field of battle. Blood is life's being and should not be shed! A major catastrophe has taken place! What is to become of his hopes and plans for his future, the part he was going to play in the future of his country? Many have said that the winning of this war

depends on the youth of today; but the making of tomorrow is his also.

Here, then, is a situation which is paramount amongst our war problems. We cannot delay its solution till victory over the enemy is won on the battlefield. This adolescent group must have our moral support now, and we must help in the solution of their problems today.

All children the world over must be assured and made to realize that when the battle to preserve the American way of life—the democratic way of life—and its heritage, the four freedoms, is won, there will be resumption of that way of life, carrying with it a return to normaility, security, love and peace. We must not forget that

> *". . . a child, more than all other gifts*
> *that earth can offer*
> *Brings hope with it,*
> *and forward looking thoughts."*[5]

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THIRST DETERMINES NEED

In these days when many physicians and dietitians are exhorting everyone to drink large amounts of unneeded water, I find it helpful occasionally to ask the patient if he has been following the present-day fad and trying to drown himself from the inside out. I have seen several persons with heart and kidney diseases who got themselves into serious trouble in this way, and I have seen the drinking of excess water produce puzzling insomnia, diarrhea, polyuria, edema of the ankles, and indigestion. I remember a woman with a diarrhea that no one had been able to stop. It stopped overnight when I got her to give up her three extra quarts of water a day!

Actually, physiologists cannot see the reason for our taking more water than our body calls for or needs. Its handling and excretion only means more work for heart and kidneys. Fortunately, the body's need for water is exactly determined by the individual's thirst.—Walter C. Alvarez, M. D., in Nervousness, Indigestion, and Pain—Paul B. Hoeber, Inc., New York.

NUTRITIVE VALUE OF VEGETABLES

The nutritive value of most vegetable greens is excellent and they are now coming into their own as a source of important protective factors. Certain ones, such as spinach, contain oxalic acid or its salts that render their calcium poorly available, and iron in the hematin form, which is likewise poorly utilized. Others such as broccoli and kale, possess nutritive properties that entitle them to greater recognition than they now receive. In general, regardless of their content of oxalic acid or hematin iron, the vegetable greens are outstanding among foods that supply our vitamin and mineral needs.—Nutritional Observatory.

SEDATIVES—A NATIONAL PROBLEM

If drug stores stopped selling sedatives for a period of two weeks there would be an awful lot of people on the night shift who couldn't sleep days and a lot on the day shift who couldn't sleep nights; then there would be some who weren't on any shift (shiftless) who couldn't sleep any time.

Everybody seems to be tired but nobody seems to know what to do after they get to bed. The old gag about being so tired they couldn't get to sleep, still is being heard—so they get up, have a cup of coffee, a sandwich, a cigarette, another sedative tablet, some mineral oil, and hop back in bed and start counting sheep till they get into the 100,000's and by that time it's almost morning—so they get up, read a few chapters of "Forever Amber" and then off to work.

It is a good thing that there are still some drugs that have to be obtained by prescription to protect those people who are trying to avoid rigor mortis by taking alternate doses of synthetic sedatives and stimulants. A sedative taken at night often has a "hangover" effect the next day so that the person is not sure he's alive till late in the morning, and wonders why he is so tired after such a good night's sleep.

The most common reason for the prescribing of sedatives is a wastebasket term called "nervousness." An interesting group of slang synonyms has arisen from this hackneyed complaint: heebyjeebies, jitters, shakes, willies, jumps, frazzled, twidgety, skittery, going all to pieces, blowing one's top, going haywire, going beserk, ad infinitum.

The central nervous system is taking a terrific pounding with the so-called advance of civilization, but as long as chemical depressants are available as easily as they are now, there is very little hope for the future. Perhaps physicians prescribe sedatives too often for minor transient insomnias, thereby creating a potential addiction in patients. If the present trend of administration of sedatives continues there will come a time when they will have to be classified exactly as narcotics and dispensed accordingly.—J. J. Lightbody, M. D., in Detroit Medical News.

DIAGNOSTIC PROBLEMS IN MALARIA

Malaria in returned military personnel, and sporadic civilian cases appearing after blood transfusions, or contracted from mosquitoes which have fed on infectious servicemen, will present some diagnostic and therapeutic problems for the next decade. Clinicians may see the sporadic civilian cases while they are having typical primary attacks. But malaria in returned service personnel will be relapsing in type. There may or may not

have been typical primary attacks. Atabrine suppressive treatment permits infection but then tends to keep it latent, sometimes for a year or longer.

The exact cause of a malaria relapse is unknown but possible stimulating factors which have been observed include anxiety, shock, fright, unusual excitement, fatigue, hunger, unusual exposure to cold and wetting, or to excessive heat, change of climate or altitude, alcoholic or venereal excess, traumatism, parturition, intercurrent illness, and surgical procedures. The symptomatology of relapses is the same as of primary attacks except that, as a rule, the disease becomes progressively milder.

While one must avoid the pernicious habit of attributing to malaria almost any fever or bilious upset in a patient resident in or returning from the tropics, yet it is impotant to realize that in such patients it is the first duty of both physician and surgeon to establish the presence or absence of a malarial infection either as a single or as a complicating factor. It is essential to make certain that, when one disease has been diagnosed, malaria is not a hidden partner, or that, when malaria has been identified by a positive blood smear, the patient may not also present another infection as well. Amebiasis and malaria, for instance, are not infrequently found in the same patient in or from such poorly sanitated countries as India or China.—Col. Paul F. Russell, M. C., in J. Iowa St. Med. Soc.

DDT POISONING

Since we discussed the modern methods of destroying insect vectors of disease, much has been written concerning the toxicity of DDT, the most important of the insecticides so far developed. Some apprehension of poisoning in humans was expressed in early writings, although no ill effects of consequence were observed in the many field investigations by the army, during the conquest of typhus in Naples when thousands of humans were deloused every day or in the North African campaign. Nevertheless, further studies were considered desirable and they have been conducted in this country and in England.

The most recent and perhaps one of the most thorough studies has just been reported from England. Cameron, of the University of London, after experimental investigations on animals together with observations on human subjects exposed for some time to this compound, concurs with the opinion of American investigators, in that there is a wide margin of safety in the use of this very efficient insecticide. He considers that if maximum concentration of 0.5 per cent of DDT be used in sprays, there is no reason to anticipate any danger to man. He contends that even with long-continued exposure to such sprays, it is difficult to see how ill effects would result. He believes that only gross carelessness would likely lead to serious effects. He recommends cleanliness by hand washing or bathing, gloves and protective garments and respirators when spraying concentrated solutions. Most observers agree that anorexia, muscular weakness and fine tremors are early signs of toxicity and if the individual is immediately shielded from further exposure these symptoms clear up quite promptly. In brief, toxic levels are not easily reached if protective measures are used and dilute solutions are employed.

From what has been written about the toxicity of DDT so far, the impression is that it really cannot be regarded as a menace to humans. To be sure, it should not be used carelessly and reasonable precautions should be taken just as have always been used with similar preparations. Trained personnel have satisfactorily handled far more dangerous substances and, by following indicated precautions, have reduced hazards to a negligible risk. DDT in the prevention of typhus in Africa and Naples alone demonstrated the benefit that its use is to humanity in an immeasurable way, so it looks as if any discussion of its toxicity is absurd in the light of the evidence so far adduced. —International Medical Digest.

THE COMMON COLD

One hundred million working days are lost to American industry each year on account of the common cold, reports Joseph H. Kler, M. D., and the cost is somewhere between a half and two billion dollars annually. This expensive nuisance is also one of the most mysterious, since little is actually known about its exact cause, its prevention and its cure. Of course, almost everyone has his particular system for beating a cold, but the statistical analysis prepared by Dr. Kler explodes some of the favorite theories. For instance, Dr. Kler finds that smoking has very little effect on colds; staying home when a cold breaks has no apparent effect on the duration of a cold (although it is certainly easier on your working associates!)

Dr. Kler reports, however fewer colds in air conditioned plants, and confirms that more colds start in draughty places. Posture is important, too, as people who walk about during their work contract fewer colds than those who sit all day. Women have more colds than men and they are severer, but the incidence in both men and women decreases with age. Strangely enough, more colds start on Monday than any other day in the week, particularly among men. (Perhaps this isn't so strange after all, since fatigue seems to be a factor in lowering resistance.)—Office of Pharmacal Information.

EMOTIONS AND TB CONTROL

Sound bodies can house stagnant or troubled minds. Troubled minds can create broken spirits. And if we wish to seem less philosophical, we can say, in more practical words, that troubled minds and broken spirits do not contribute to tuberculosis control, do not contribute to patient cooperation in cure, do not act as safeguards against recurrence and do not protect a society from the too early return of patients half cured and almost wholly shattered. And we can say that education has proved that men's minds and spirits do not remain static from day to day and month to month and year to year. They change, by growth or by degeneration, as their bodies change, by growth or by decay. No mind, left fallow for too long a period, retains its resiliency. No spirit, left fallow for too long a time, maintains its "fight." Tuberculosis is not cured in a day, and not all patients, prior to their illness, have had experiences which have fortified them against the demoralizing inroads of empty time.—Helen M. Becht in Am. Rev. of Tuberculosis.

The President's Page

A review of the questionnaires returned to the committee on Relocation and Reestablishment of Returning Medical Veterans convinces me that the biggest problem facing these doctors concerns office space. This view is confirmed by conversations I have had with some of our doctors who have come back from the armed forces, and I find that the situation is not wholly confined to the larger cities of the state.

No greater service could be rendered a doctor who has returned to his home community from military service than for his confreres in that community to help him find suitable quarters. Our doctors accepted commissions in the armed forces with the full knowledge that they might be sent to the far corners of the earth. Some of them have been through hell itself. All have been separated from home and family. They need help, and it is their right to expect and certainly our duty to give them this help.

The doctor in the small town is entitled to just as much consideration as the doctor who returns to civilian practice in one of our larger cities. In the counties which are but part of area component societies, I urge doctors who have remained in civilian practice to extend every aid to these medical veterans. In the counties which have appointed special committees to handle this problem, I urge speed and thoroughness in the matter of finding office space for them. Having found them rooms, it behooves us to see that their former patients return to them. They did not fail us, and we must not fail them now.

Thomas C. Harris

President.

West Virginia Medical Journal

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OUR ALCOHOL PROBLEM

Probably most of us take the alcohol question as a matter of course, realizing that more or less of an evil, alcohol has been with us since Noah, who, inebriated upon the wine from his own vineyard, lay unconscious and naked in his tent and his sons with heads bowed in shame walked backwards to spread a protective garment over his nude body.

The magnitude of the present day situation is thrust upon us by an article in *The Journal of the American Medical Association* for October 6. The author, Dr. Robert V. Seliger, Assistant Visiting Psychiatrist at Hopkins, and Executive Director of the National Committee on Alcohol Hygiene, Inc., says that "alcoholism in America is a serious national health problem," and his statistics would certainly justify such a conclusion.

He estimates that there are in the United States 600,000 chronic alcoholics, "sots", if one cares to use the vernacular of the street; and in this group he includes only those who have been hospitalized for inebriety. Moreover, he places the number of heavy drinkers at 2,000,000, and the social drinkers at 38,000,000. Assuming the correctness of these figures, more than one in four of the entire population of this country are regular consumers of alcohol. He believes that "the trend toward heavy drinking in the last quarter of a century is a product of our present culture with its strains and tensions on the emotions.

Dr. Seliger discusses the problem from the scientific standpoint of the physician, the psychiatrist, and the criminologist, and especially the relationship of alcoholism to criminality. "It has been our experience," he says, "that criminal offenses against society are committed by individuals with poorly integrated personalities, emotional instability, conflicts with the environment and frustration; these are also found in many alcoholic addicts whose drinking is symptomatic of their inability to adjust themselves realistically to the environment and its demands on them."

The comparative effect of alcohol on criminals and noncriminals is described as follows: "Alcohol, pharmacologically, acts as a depressant on the nervous system, resulting in relaxation (to varying degrees and extents) of judgment and control so that underlying forces—the personality dynamics—find a more direct mode of expression. While such underlying forces may be of a passive *laissez-faire* nature, as well as an aggressive, disruptive one, the general result of the loosening of conscious control is the release of *id* urgings, in themselves amoral in tenor. Both practically and theoretically the response of the individual to alcohol is the response of the total personality, comprising the emotional maturity level and intellectual and physical endowment-equipment functioning in a specific environment and stimulated by specific environmental situations that activate internal reaction behavior patterns. This applies just as pertinently to the noncriminal as to the criminal alcoholic addict but, in contrast to the case of the social drinker, the effects of even slight loss of control is a hazard to the criminal (prison inmate, the parolee, or the released convict) which the average social drinker does not face. . . . Drinking at any time, even for the social, controlled drinker who can stop at will, always leads to a temporary relaxation of judgment, discretion and control. We do not need scientific research to acquaint us with this fact.

"Alcohol, as stated, acts as a depressant on the nervous system: the quantitative and qualitative results depend on factors that vary between individuals and in the same individual at different times, owing to fatigue, sugar metabolism and psychologic state, including mood, thought and specific stimuli. Physiologic changes of functioning include proper coördination of thought and muscular action, diminishing sharpness of sensory perception, and delayed and weaker motor performance with accom-

panying increase of error. Disregarding individual personality dynamics of alcoholism as a psychiatric illness symptom, the physical effects of alcohol are not conducive to controlled behavior, nor are its effects in any way predictable."

The history of alcoholism and various social factors are presented as having an important bearing on the problem, and the conclusion is reached that "within the last quarter century the trend toward the more moderate use of alcohol has definitely reversed and there is a decided increase of alcoholism in all groups and ages."

The author believes that the English situation is definitely better than our own, apparently based on Fleming's 1937 report that in England for the twenty-five year period preceding arrests for alcoholism had decreased 80 per cent. The reasons for the decrease are given as social legislation, equal rights and equal responsibilities of capital and labor, restricted hours of sale of alcoholics, increased diversionary and recreational facilities, and better social service work with the individual and the family unit. Remedial measures suggested in America include attempts to modify our social environment to lessen anxiety and tension, to provide relative security and healthy community living, to develop mental hygiene clinics, and of course to improve our facilities for the treatment of mental diseases. The author stresses education by every available means not only as to the effects of alcohol, but especially as to the recognition of the early signs of emotional illness so that preventive measures may be instituted.

The concluding paragraph is especially challenging: "Alcoholism in America is a serious national health problem; the problem of criminality is closely associated in the personality field with alcoholism; neither the alcoholic addict nor the criminal (provided there are no organic or deterioration changes) should be viewed as hopelessly beyond rehabilitation. Society must assume its responsibilities on a realistic basis to help provide environments that do not tend to produce retarded or warped personalities; and individuals themselves must take some responsible purposive action along these lines and not, in an infantile manner, expect the community or the state to administer to all their wants and desires."

Certainly the picture presented is anything but roseate. When we consider the enormous number of individuals using alcohol as compared with the number of victims of cancer, tuberculosis, poliomyelitis, or venereal disease, we realize that as a matter of public health, alcoholism is in the very forefront of our health problems, and is a long way from solution. Probably the rearing of a generation of individuals educated to understand that alcohol is a narcotic poison tending to habit formation will help as much as anything else.

Assuming the correctness of Seliger's hypothesis that alcoholism really has a psychiatric basis, and certainly it has in an enormous number of instances, mental hygiene and child guidance clinics should go a long way as a matter of prophylaxis. Unquestionably time, persistent study and application, and evolution will be necessary elements in any solution, and the waving of a legislative wand to effect a cure-all would seem, in the light of the "Noble experiment" of the 'twenties, to be contraindicated.

OUR ADVERTISERS

We have heard many favorable comments from the members of the State Medical Association concerning not only the increase in the number of pages of advertising in the Journal, but also the quality of such advertising, the attractiveness of the matter presented, and the departure in some instances from the use of black and white to colors and "bleed" pages.

The advertisers naturally seek ways to establish direct contact with our doctors. It is one thing to read and admire an ad, and another to act directly so that the advertiser may know that the display ad has attracted the interest of the doctor. In many instances the doctor is requested to write for literature. In others, he is furnished a reply coupon in the ad itself. In either case, very little time is required to answer an advertisement and thus take advantage of the offer that is made.

The true measure of success of any advertising campaign is the number of persons who evince an interest in the product advertised. Even though all the products mentioned in a particular ad can be purchased locally, we hope that our doctors will continue to write to our advertisers. In this way, they will know that the members of the profession in our state appreciate the effort that is being made to better acquaint them with merits of the products or appliances advertised in the Journal.

A SERIOUS PROBLEM

The members of the special committee on Relocation and Reestablishment of Returning Medical Veterans are no doubt gratified with the response that has followed the suggestion that doctors in civilian practice make every effort to help the doctors returning from military service. The matter of office

space is still the big problem with the majority of those who have returned home. Officers and members of component societies are realizing the more how very necessary it is for them to help these medical veterans find a way out of this very serious situation.

We commend the doctors over the state who have offered temporary space in their offices to returning doctors who otherwise would be compelled to remain on the medical sidelines until rooms can be found for them in new buildings which have not yet gotten past the blueprint stage.

VALUE OF MEMBERSHIP

Many West Virginia doctors who have been serving in the armed forces were ordered to active duty at the termination of their internship and before they had an opportunity to apply for licensure in this state. These young men are now coming back home and will no doubt immediately file proper application and take the prescribed examination just as soon as possible. If any great number apply within the next few weeks, it is hoped that the Public Health Council will advance the date of the next meeting or call a special meeting so that applicants may take the examination without delay.

The young men who are licensed by the Public Health Council will be eligible to practice anywhere in West Virginia. We urge them to get actively into practice as soon as they can complete arrangements, and we further urge that they apply immediately for membership in a local medical society. They will find that doctors already established in civilian practice can do much to help them over the rough places at the beginning of their professional career.

Officers of component societies should and no doubt will make every effort to interest these young doctors in local medical affairs to the extent that they will want to become identified with the local medical society. Such membership will be of mutual benefit to the doctor and the society.

A GOOD SUGGESTION

The model form of newspaper announcement provided by the Publicity Committee for use of local societies for the purpose of acquainting the public generally with the fact that members who have been serving in the armed forces have returned home and resumed civilian practice is already being used by four of the larger societies. The plan has been adopted by the Harrison County Medical Society, Kanawha Medical Society, Marshall County Medical Society, and the Academy of Medicine of Parkersburg. Dignified display announcements have already appeared in Clarksburg and Moundsville papers over the signatures of the Harrison and Marshall County societies.

The form suggested by the committee is printed in another section of this issue of The Journal. Copies have been mailed to the president and secretary of each component society. We commend the use of this form in substance and feel that the public generally will approve this method of announcing the return to community life and practice of doctors who have given so much to assure for us all a continuance of the real American way of life.

ISOTOPES IN NUTRITION RESEARCH

The release of atomic energy represents the dramatic culmination of the early experiments of Becquerel and of the Curies whose discovery of radioactivity almost fifty years ago resulted in the birth of a new science—nuclear physics. The science which has given us the atomic bomb has also made available to medicine, biochemistry and nutrition research one of the greatest scientific tools since the invention of the microscope—isotopic tracers.

Isotopes are different forms of the same element with almost identical properties. They are physiologically indistinguishable to the living cell but can be readily detected because of their differences in mass (atomic weight) or by characteristic radiation.

The discovery and isolation of naturally occuring stable isotopes, and the creation of new, radioactive forms of the elements through nuclear bombardment, have made possible a unique method for labeling or tagging compounds and thereby for tracing their course through the animal body. By this means new light has been shed on the complex mechanisms involved in metabolism and nutrition and a dramatic new concept of the body economy has arisen—that of the dynamic state of body constituents—Borden's Review of Nutrition Research.

BE IT EVER SO HUMBLE—

Today in peace as well as war time, our waking and even our sleeping hours are a succession of small or severe shocks to the nervous system. Every siren, auto brake, telephone bell, moving traffic, crowds, large stores are stimuli to the nervous system. These accumulated stimuli create the constant need of adjusting to every such incident. The result is that by the end of the day our nervous system is like the main spring of a watch which has been wound too tightly. Home is one of the few places interested in helping to recreate the members of the family. Home must be a "retreat" where we can recover from the high speed world in which we work. Home must be flexible enough to adapt itself to the individual needs of its members and have ingenuity enough to create play situations.—Nadine R. Kavinoky, M. D., in Medical Woman's World.

General News

BUSY FALL MEETING OF STATE MEDICAL ASSOCIATION COUNCIL AT PARKERSBURG

The regular fall meeting of the Council was held at Parkersburg, Sunday, October 14, 1945. Following a luncheon in the Blennerhassett Room at the Chancellor Hotel, at which the members and others present were guests of Dr. Thomas L. Harris, president, the Council was called to order by Dr. Robert J. Reed, Jr., of Wheeling, chairman.

The following officers and councillors were present: Dr. Robert J. Reed, Jr., chairman; Dr. T. M. Barber, treasurer; Drs. John P. Helmick, Carl E. Johnson, Guy H. Michael, E. A. Trinkle, J. E. Wilson, Walter C. Swann, Curtis P. Artz, J. L. Patterson, W. P. Bittinger, and Thomas G. Reed; Mr. Charles Lively, executive secretary; Miss Catherine Clarkson, assistant secretary; and, Dr. Wm. C. Stewart, member of the committee on revision of workmen's compensation fund fees.

Annual Meeting

Confident that transportation and hotel facilities will be ironed out within the next few months, the Council voted for a three-day annual meeting at Huntington, May 13-15, 1946.

Waiver of Dues

The Council unanimously voted to waive dues of doctors returning from military service for the consecutive year following their return to civilian practice, and recommended that each component society take similar action. The waiver of dues was recommended by the committee on Relocation and Reestablishment of Returning Medical Veterans.

Release of Doctors From Armed Forces

A resolution was adopted urging the surgeons general of the Army and Navy to discharge as promptly as possible all West Virginia doctors now in the armed services who can be spared, in order that the need for additional physicians in West Virginia may be met. The delegates to the A. M. A. House of Delegates were instructed to bring this matter to the attention of that organization at the annual meeting to be held in Chicago, December 3-5, 1945.

Honorary Members

The following West Virginia doctors were elected to honorary life membership in the Association: Drs. C. M. Hawes and Raymond Sloan, Huntington; Dr. Henry E. Baum, Charleston; Dr. W. G. Drinkwater, Gormania; and, Dr. J. O. Bailiff, Mullens.

Rural Medical Service

Recognizing the need for the extension of medical care to outlying districts in the state, the Council directed the president to appoint a committee on Rural Medical Service to work with committees of the American Farm Bureau Federation and other farm organizations planing rural health improvement.

Permanent Home

Initial steps looking towards the construction of a permanent home for the State Medical Association were taken by the Council when the president, Dr. Thomas L. Harris, was authorized and directed to appoint a committee to confer on the subject with a similar committee from Kanawha Medical Society.

Control of Communicable Diseases

Besides approving revisions by the Public Health Council of regulations concerning the control of communicable diseases, the Council recommended the adoption in principle by that body as the official communicable disease code for this state of the American Public Health Association's manual on "The Control of Communicable Diseases."

Dr. Van Liere Reelected

Dr. E. J. Van Liere, Dean of the West Virginia University School of Medicine, was elected to succeed himself as a member of the Publication Committee for the term ending December 31, 1950.

Executive Secretary Elected

Mr. Charles Lively, of Charleston, who has been serving as acting executive secretary of the association since May, 1942, was elected as permanent secretary to succeed Major Joe W. Savage, recently discharged from military service, who has accepted a position with the National Foundation for Infantile Paralysis, in New York.

RELOCATIONS

Dr. R. E. Traul, who has been engaged in industrial practice at Logan, has moved to Findlay, Ohio.

* * *

Dr. Jules I. Klein, or Morgantown, has moved to Cincinnati where he will continue to practice his specialty of pediatrics.

* * *

Dr. Charles P. Burke, of Jenkinjones, has located at Thomas, succeeding Dr. H. S. Parker in general practice. Dr. Parker is taking a year's postgraduate course in pediatrics in Chicago.

* * *

Dr. Weaver B. Rogers, member of the staff at Spencer State Hospital, has moved to Las Vegas, New Mexico, where he has accepted a position on the staff at the New Mexico State Hospital. While at Spencer, Dr. Rogers was in charge of the clinic at the hospital.

* * *

Dr. Robert F. Dickey, of Pursglove, is now located at Miami, Florida.

DEPUTY HEALTH COMMISSIONER NAMED

Dr. Bruce H. Pollock, formerly of Huntington, has been appointed by Dr. J. E. Offner, state health commissioner, as deputy state health commissioner to succeed Dr. A. L. Chapman, who has been serving as acting deputy on loan from United States Public Health Service since 1944.

Doctor Pollock was serving as director of the bureau of county health work in the state health department when he entered the Navy in 1941 with

the rank of lieutenant. He was afterwards promoted to the rank of lieutenant commander. He was first assigned to the Norfolk Navy Yard and then served as medical and sanitary officer with a Marine air group in the South Pacific. After his return to this country, he served as flight surgeon at the office of Naval Officer Procurement, Philadelphia, and at the Naval Air Technical Training center at Memphis, Tennessee.

Doctor Pollock has had a long career in public health work. In 1936 he was connected with the West Virginia Training Center at Beckley, and was responsible for the organization of Clay, Braxton, Webster and Nicholas counties into the first district health unit in the state.

Prior to his appointment as director of county health work in 1939, Doctor Pollock attended Johns Hopkins University and received a masters degree in public health, and served for a short time as health officer for district No. 3.

DR. W. F. BECKNER HONORED

Dr. William F. Beckner, of Huntington, was elected president of the West Virginia State Conference of Social Workers at the annual meeting held in Charleston early in October. He succeeds Dr. Charles E. Kenney, chief of the division of child welfare of the department of public assistance.

DR. MYNES REELECTED

Dr. Leo H. Mynes, of Charleston, director of health service for Kanawha County schools, has been reelected president of the West Virginia Tuberculosis and Health Association for the fifth consecutive year. Other officers elected include Dr. W. P. Bittinger, Summerlee, vice president; Miss Mae M. Maloney, Charleston, secretary; and, Robert C. Hawkins, Charleston, treasurer.

APPROVED FOR GRADUATE TRAINING

Laird Memorial Hospital at Montgomery has been approved by the American College of Surgeons for graduate training in general surgery, according to a special bulletin published late in September.

REFRESHER COURSE IN MEDICINE

The Department of Medicine of the University of Virginia in conjunction with the Medical College of Virginia is planning to offer an intensive two-week Refresher Course in General Medicine every three months for the next year. These courses will be comprised of lectures, clinics, ward rounds, clinicopathologic conferences and round table discussions. The first course is planned from December 3rd to December 15th, 1945, at the University of Virginia and any physician wishing further details should address Box 1725, University Station, Charlottesville, Virginia. Those desiring information about the courses to be given by the Medical College of Virginia in March and September should address Dean J. P. Gray, Medical College of Virginia, Richmond, Virginia.

HUNTINGTON SOCIETY TO BE HOST AT 79TH ANNUAL MEETING, MAY 13-15, 1946

Huntington will be host to the 79th annual meeting of the West Virginia State Medical Association on May 13-15, 1946. These dates were fixed by the Council at a meeting held at Parkersburg the middle of October.

The 1942 meeting was transferred to and held at Huntington when the Army took over the Greenbrier Hotel at White Sulphur Springs, for use as a general hospital. The Cabell County Medical Society volunteered to substitute for the Greenbrier Society as host, and the meeting, streamlined to two days, was held in July. Notwithstanding the war and the change of location, more doctors were present than at any meeting held in recent years.

The Scientific Work Committee is hard at work on a program for the full three day sessions in May. Dr. William R. Laird, of Montgomery, is chairman and the other members are Drs. Herbert M. Beddow, of Charleston, and Raymond Sloan, of Huntington.

Convention headquarters will be established at the Prichard Hotel and all scientific and technical exhibits will be set up there on the mezzanine and in adjoining rooms. Scientific sessions will be held in the ballroom.

The Woman's Auxiliary will meet in Huntington conjointly with the State Medical Association.

INTERNATIONAL COLLEGE OF SURGEONS

The tenth annual convention and convocation of the International College of Surgeons will be held December 7-8, 1945, at the Mayflower Hotel in Washington, D. C., At that time, approximately 200 doctors will receive their fellowship. A scientific program has been arranged for both days. Convocation exercises will be held Friday evening, December 7, in the Mayflower auditorium.

Dr. Benjamin I. Golden, of Elkins, is treasurer of the organization, having been elected at the annual meeting held in October, 1944.

HEALTH OFFICERS NAMED

Dr. John E. Offner, State Health Commissioner, and ex officio secretary of the Public Health Council, has announced the appointment of the following part-time health officers:

Dr. C. Royall Kessel, of Ripley, Jackson County; Dr. P. F. Marks, of Walton, Roane County; Dr. J. W. Stokes, of Hinton (part-time for the city of Hinton); and, Dr. J. C. Arnett, of Rowlesburg, who will serve temporarily as county health officer for Preston County in the place of Dr. C. Y. Moser, of Kingwood.

DR. N. H. BAKER REAPPOINTED

Dr. N. H. Baker, of Charleston, has been renamed by Governor Meadows as the dental representative on the public health council for the four-year term ending June 30, 1949. Dr. Baker has been a member of the council for the past seven years.

COUNCIL PROPOSES REVISION OF WORKMEN'S COMPENSATION FUND FEES

The revised schedule of Workmen's Compensation Fund fees prepared by a special committee appointed by Dr. Thomas L. Harris, president of the State Medical Association, for submission to the commissioner has been approved by the Council.

The committee which prepared the schedule which the Council has requested the commissioner to adopt, is composed of Drs. E. A. Trinkle, chairman, W. C. Stewart, H. V. Thomas, R. L. Anderson, Thomas G. Reed, E. F. Reaser, and J. L. Hutchison. The fee schedule follows:

Fractures

Skull: Simple	$ 50.00
Complicated	not to exceed 150.00
For fracture of the body of one or more vertebrae (non-operative)	50.00 to 100.00
Open reduction or spinal fusion, if authorized	150.00
For fracture of one or more vertebrae—transverse processes	35.00
One bone of forearm	35.00
Carpal bones: Single	25.00
Multiple	35.00
Metacarpal bones: Single	25.00
Multiple	35.00
Upper jaw	15.00 to 35.00
Nasal bones	25.00
Pelvis: Simple	50.00
Multiple, with displacement	50.00 to 100.00
Patella: Without operation	25.00
With operation	50.00 to 75.00
Tarsal bones: Single	25.00
Multiple	50.00
Metatarsal bones: Single	25.00
Multiple	50.00
Os Calcis	50.00 to 75.00
Operations on Compound Fractures	100.00
Laminectomy, if authorized	100.00 to 150.00
Rehabilitation: Operation for non-union or mal-union, if authorized	100.00 to 150.00
Arthroplasty, if authorized	100.00 to 150.00
Arthrodesis: Major joint, if authorized	100.00 to 150.00
Minor joint, if authorized	50.00
Fasciotomy, if authorized, not to exceed	50.00
Removal of cartilage from knees, if authorized, not to exceed	125.00
Repair of ligament, if authorized, not to exceed	150.00
Suture of one tendon	25.00
Additional tendons, each 15.00, total not to exceed	100.00
Plastic lengthening of tendon, if authorized	50.00

Dislocations

The committee feels that the fee schedule already in force covering dislocations is satisfactory.

Amputations

Flat rate including amputation and subsequent treatment. In case of more than one amputation the fee shall be the major one plus fifty per cent of each of the others herein classified.

Amputations, elbow joint and above	100.00
Below elbow	75.00
Knee joint and above	100.00
Below knee	75.00
Amputation of phalanges: Single	25.00

Special Operations

Laparotomy: Simple, if authorized	100.00
With removal of abdominal organ or organs, or repair of viscera (excluding appendix)	150.00
Herniotomy: Single	75.00
Double	100.00

Urology

Nephrectomy	150.00
Ruptured Urinary bladder	100.00
External Urethrotomy	50.00
Internal Urethrotomy	25.00
Prostectomy	150.00
Cystoscopy with ureteral catheterization	25.00
Cystoscopy	10.00
Tidal drainage in cord bladders	50.00

Miscellaneous

Office calls with necessary dressings	3.00
Home calls with necessary dressings	5.00
Hospital calls with necessary dressings	3.00
Subsequent visits: Office and hospital	3.00
Home	5.00
Anesthetic: Major operation	10.00
Minor operation	5.00
First blood transfusion	10.00
Each subsequent blood transfusion	10.00

Examinations

All examinations	10.00
Consultation, with report	10.00

Eye, Ear, Nose and Throat

Foreign body of cornea or sclera: (c) Difficult or complicated cases—including those requiring use of magnet	5.00 to 10.00
Extraction of foreign body from inside the eyeball, without magnet (No change in fee with magnet)	50.00
Plastic operation on one or both lids, if authorized	75.00 to 150.00
Consultation	10.00
Complete ophthalmological examination with report	10.00
Squints, if authorized	100.00
Esophagoscopy	50.00
Bronchoscopy	50.00
Foreign Body Bronchus	75.00
Esophagus	75.00
Mastoidectomy: Conservative	75.00
Radical	100.00
Maxillary Antrum: Operative	50.00
Frontal	75.00
Tonsilectomy	30.00
Antral Lavage	10.00
Laryngectomy	200.00
Submucous resection	50.00

The committee recommended that fees covering services not specifically mentioned remain the same as previously fixed by the commissioner and published in the "Revised Schedule of Fees," issued January 1, 1943, with amendment increasing hospital ward rates from $3.50 to $4.00 per day.

The committee further recommended that all fees should be construed to be flat rates except when otherwise stated, and that authorization should be obtained from the commissioner in cases where the treatment would involve further expenses.

PSYCHIATRIC SEMINARS ATTRACT INTEREST OF WEST VIRGINIA DOCTORS

The Psychiatric Seminars arranged by the Psychiatric Committee of the State Medical Association and held at Morgantown, Huntington and Bluefield, October 10-11-12, were all successful from the standpoint of attendance, interest and program provided for doctors and laymen in attendance.

The guest speakers were Dr. Dale Cameron, of Bethesda, Maryland, assistant director of the division of mental hygiene of the USPHS, and Dr. Wendell Muncie, of Baltimore, formerly associate professor of psychiatry at Johns Hopkins University.

Morgantown

At Morgantown, the Monongalia County Medical society was swamped with reservations for the dinner preceding the meeting, which was attended by doctors representing Monongalia, Preston, Marion, Harrison, Barbour-Randolph-Tucker, Marshall, and Central West Virginia medical societies. The attendance at the seminar itself was in excess of two hundred, and the audience included nurses, medical students, and professors and lay instructors from the various schools at West Virginia University. Dr. Cameron spoke on certain diagnostic problems of psychiatry, and Dr. Muncie reviewed some of his psychosomatic problems and various experiences in diagnostic work, presenting some clinical cases. Following the addresses, there was an interesting round-table discussion of psychiatric problems as they present themselves to the general practitioner.

Huntington

The meeting at Huntington was held in the ballroom of the Prichard Hotel with an audience of over 250 persons present, including doctors from Cabell and all of the surrounding counties, and some from nearby Kentucky and Ohio cities. Besides doctors, the audience included representatives from the other professions and laymen interested in the work of the committee.

Dr. O. B. Biern, chairman of the State Medical Association's Psychiatric Committee, briefly outlined the work of his committee, and the speakers were introduced by Capt. John P. Lambert, MC, psychiatric member at the induction center at Huntington.

Dr. Cameron opened the seminar with a discussion of the basic principles of psychiatry. He cited several problems with which doctors come in contact in general practice, which must be classed as psychiatric disorders, but which could very well be diagnosed as organic disease. With illustrations of simple distortions of human behavior, he succeeded in presenting a clear meaning of psychiatry and psychosomatic medicine.

Dr. Muncie discussed the application of psychosomatic medicine, showing clinical results to be obtained. He personally interviewed before the audience a patient from the Veterans Hospital at Huntington.

Bluefield

The three-day series of metings came to an end at Bluefield, when the two speakers addressed a meeting in the Appalachian Building, sponsored by the Mercer County Medical Society. Doctors were present from Mercer, McDowell, and Wyoming counties and from Tazewell county, Virginia.

Doctors Cameron and Muncie discussed the same subjects presented at Morgantown and Huntington. The program was interesting and instructive to the large number of doctors and nurses present from the southeastern part of the state.

Future Meetings

The second of the series of seminars will be arranged for late this year or early in 1946. One of the meetings will be held at Charleston, and the other two cities will be selected by the psychiatric committee at a meeting which will be held early in November.

PUBLICITY COMMITTEE ACTS

The Publicity Committee of the State Medical Association has sent to the officers of all component societies a model form to be used in announcing the return to civilian practice of members who have been serving with the armed forces. This step was taken at the suggestion of the committee on Relocation and Reestablishment of Returning Medical Veterans. Already three societies, Kanawha, Harrison and Parkersburg Academy, have acted favorably in this matter, and have appointed committees to arrange for the insertion of proper announcements in local newspapers. The form suggested is as follows:

ANNOUNCEMENT

The ..... County Medical Society announces with much pleasure the return to private practice of the following members who have been serving with our armed forces:

Dr. .....

.....
(Address)

Dr. .....

.....
(Address)

Dr. .....

.....
(Address)

We welcome the return to our community of these doctors who have been absent in the service of our country, and respectfully suggest and urge that their former patients return to them for medical care.

.....
(Name of medical society)

Announcements have already been carried in local papers published in Clarksburg and Moundsville.

The Publicity Committee is composed of Drs. James L. Wade, of Parkersburg, chairman; C. O. Post, of Clarksburg; and, W. W. Point, of Charleston.

SOUTHERN MEDICAL AT CINCINNATI

Over a hundred West Virginia doctors are expected to attend the 39th annual meeting of the Southern Medical Association, November 12-15, at the Netherland Plaza Hotel, in Cincinnati. There are still some hotel rooms available, but reservations made already indicate that there will probably be a record attendance. The host society will be the Campbell-Kenton County Medical Society, composed of doctors residing for the most part in Covington and Newport, Kentucky. While it will be a Kentucky meeting, Cincinnati hotel facilities will be used exclusively.

Three West Virginia doctors will present papers at the meeting. Dr. Russell B. Bailey and Dr. Charles D. Hershey, of Wheeling, will appear on the program arranged by Dr. R. J. Wilkinson, of Huntington, for the section on surgery.

Dr. Harold H. Kuhn, of Charleston, formerly assistant orthopedist and instructor in orthopedics at Duke University School of Medicine, will appear on the program arranged for the section on traumatic and orthopedic surgery. His subject will be, "The Results of Removal of Ruptured Intervertebral Discs and Combined Disc Fusion Operations—Analysis of 288 Cases."

The Woman's Auxiliary will meet conjointly with the Southern Medical Association. Mrs. John P. Helmick, of Fairmont, is president of that organization.

WOMAN'S AUXILIARY TO MEET

The executive board of the Woman's Auxiliary to the State Medical Association has fixed May 13-15, 1946, as the dates for the 22nd annual meeting which will be held at Huntington, conjointly with the State Medical Association. It is probable that the Governor Cabell Hotel will be selected as convention headquarters. The program for the annual meeting is in charge of the convention committee, of which Mrs. E. J. Humphrey, of Huntington, is chairman.

SEEK DEGREES IN PUBLIC HEALTH

Three West Virginia health officers have enrolled at Johns Hopkins School of Public Health, Baltimore, for a nine months' course, following which they will receive degrees in public health. Those enrolled at the school are Drs. C. Y. Moser, of Kingwood; M. A. Viggiano, of New Martinsville; and S. G. Zando, of Williamson.

ANNUAL MEETING A. C. C. P.

West Virginia will be represented on the program of the southern chapter of the American College of Chest Physicians at the annual meeting which will be held conjointly with the Southern Medical Association meeting at Cincinnati, in November. At the morning session on November 12, Dr. Walter E. Vest, of Huntington, with Dr. Karl Schaffle, of Ashville, North Carolina, will open the discussion in connection with the paper to be presented by Dr. Andrew L. Banyai, assistant clinical professor of medicine at Marquette University School of Medicine, in Wisconsin. Dr. Banyai's subject is, "Fifteen Years' Experience with Carbon Dioxide in the Management of Cough."

Doctors in the Service

Lt. Col. George F. Evans, who is now stationed in Italy, is expected home about the first of November. He was recently awarded the Legion of Merit, and the full citation follows:

> "George F. Evans, O488984, Lieutenant Colonel, Medical Corps, 32nd Station Hospital, for exceptionally meritorious conduct in the performance of outstanding services in North Africa and Italy from 27 January 1943 to 8 May 1945. As Chief of Medical Service in the 29th Station Hospital in North Africa, and later in a similar capacity with the 32nd Station Hospital in Italy, Lieutenant Colonel Evans through his superior performance of duty contributed materially to the Medical Service of both hospitals. Regardless of personal sacrifice, he spent many extra hours in organizing and developing his department, instructing the younger officers in the records. His tactful dealing with all ranks and his ability to work under pressure set a high example for other members of his organization. His superior professional abilities and outstanding devotion to duty reflect great credit upon Lieutenant Colonel Evans and the Army Medical Service."

* * *

Capt. William C. Polsue, who is assigned to the medical dispensary at Fort Adams, Rhode Island, recently visited his family and friends in Charleston.

* * *

Capt. Vernon L. Peterson, of Charleston, who has been stationed at Fort Jackson, South Carolina, is now assigned to Wakeman General Hospital, at Camp Atterbury, Indiana.

* * *

Comdr. C. E. Lewis (MC) USNR, and family were recent visitors in Charleston. Commander Lewis is assigned to the U. S. Naval Dispensary at Washington and resides at Hyattsville, Maryland.

* * *

Capt. Ralph J. Jones, of Charleston, who returned from the ETO in July, is now stationed at Camp Breckinridge, Kentucky.

* * *

Lt. Col. Paul H. Revercomb, of Charleston, who has been stationed on Okinawa, is now with the army of occupation in Tokyo.

* * *

Lt. Col. Sobisca S. Hall, of Clarksburg, who has been in service in the Pacific for several months, and was recently stationed at Manila, has been given an honorable discharge and has returned to civilian practice in his home city. He is associated with Dr. H. V. Thomas, with offices in the Empire Bank Building.

According to a communique received from the Army Public Relations Office in the Philippines, Lt. Colonel Hall has been awarded the bronze star "for meritorious achievement, outstanding service, and extraordinary professional ability."

* * *

After two years' service in Alaska and the Aleutians, Capt. Charles E. Staats, of Charleston, has been transferred to Lawson General Hospital at Atlanta, Georgia.

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PSYCHIATRY IN WEST VIRGINIA

FOREWORD

Cognizant of the increasing magnitude of the problems of mental health, the Council of the State Medical Association appointed a committee on psychiatry. This committee finds that there is a widespread interest and curiosity prevailing both within and without the profession as relates to psychiatry. How this can be satisfied is a matter of education, both of the profession and of the general public.

In some places, lay and professional groups are organized to provide such information, but not in West Virginia. After consultation with outstanding leaders and national organizations, a unique experiment is being tried. The Council is sponsoring a program of "Psychiatry for the Practicing Physician," which is based entirely on what the individual doctors have requested. That is the presentation in simple language of the basic concepts of psychiatry as related to the diagnosis and treatment of the everyday problems of general medicine. This material is being offered at regional seminars and in the Journal.

This program is a new venture. It is an experiment and subject to revision. It is to be guided by the interest and needs of the physicians in West Virginia. Many outstanding leaders and groups in the medical profession have encouraged us in building this program and are watching with interest to see if it is applicable elsewhere.

Hand in hand with educational opportunities for the profession should go material for the laity. Part of the responsibility for this will fall to physicians. Doctors are frequently consulted by civic leaders and agencies for guidance in matters of public health, no small part of which is mental hygiene. As the doctor gains an insight into human behavior (why John Jones behaves as he does and complains of this or that) then he will be in a position to play a stronger role in community health. Prevention of illness is aided by sound public school system opportunities for recreation and healthful work conditions. Physicians can help bring this to the fore in their communities.

The attendance of members of the profession at the first of the series of seminars held in West Virginia a short time ago was such as to prove to the members of this committee that general practitioners, as well as specialists in the various fields, are interested in learning more about psychiatry and psycomatic medicine. The total attendance at Morgantown, Huntington and Bluefield was more than was expected, and the committee feels that the success of the second of the series, which will be held in three different cities in the state, is already assured.

This remarkable demonstration of interest convinces us that our doctors will support programs of this character, and we shall make every effort to provide speakers for the remaining seminars who will continue to stimulate interest in this important branch of medicine.

The Psychiatric Committee is grateful to the members of the Publication Committee for their full cooperation in the publication of this, the "Psychiatric Number" of the West Virginia Medical Journal. The papers presented in this issue have been selected with great care by the Publication Committee, and we feel that each merits reading by every member of the State Medical Association.

PSYCHIATRIC COMMITTEE,
By O. B. Biern, M. D.,
Chairman.

PSYCHIATRY FOR THE GENERAL PRACTITIONER

AN INTRODUCTION TO THE PSYCHIATRIC POINT OF VIEW

By CAPT. JOHN P. LAMBERT, M. C., AUS,
Huntington, West Virginia

Most persons know about psychiatry but not many have a reasonable understanding of its meaning or scope. Not one physician in five has a working knowledge of the subject, yet over half of the individuals seeking medical care need psychiatric understanding. It seems worthwhile then to give some orientation in the field of psychiatry and outline how one goes about evaluating the complaints which bring patients to the physician. With this as a background, future presentation of material in line with problems and treatment will have more meaning.

What is psychiatry? Modern American psychiatry is concerned with individuals. The emphasis is on the comprehensive consideration of the individual as a living unit responding to the stress and strain which he encounters as he goes through life. Man is a functioning unit, a thinking-feeling-human being in action, a whole person reacting to all sorts of things. Psychiatry is concerned with the study of how man gets along with himself and with those about him. From the cradle to the grave man lives in some sort of relationship with others. It is obvious that no living relationship is in a continuing state of neutral and toneless tranquillity. We all have our ups and downs; we argue, fight, make up, give, take, compromise, avoid, escape and hide. Such disturbances in social relationships may be manifested by behavior which expresses itself in many ways including physiological difficulties. Some are gross, obvious, and direct; others are subtle, concealed and misleading. When there is a gross, obvious and continuing disturbance in relation to oneself or those about him even the layman recognizes illness. The little man strutting with cocked hat and hands across his chest does not have to identify himself as a self-appointed Napoleon. Recognition of the less glaring and more or less temporary disturbance is less widely appreciated. Too frequently doctors forget that somatic complaints and organ dysfunction may be the expression of "person" difficulties or illness.

The prevalence of psychiatric problems is far greater than is generally realized. It has been estimated that over 50 per cent of the patients seen by the general practitioner are primarily psychiatric. Nearly 30 per cent of all patients admitted to general hospitals will be found to present conditions or problems that are primarily psychiatric regardless of the patient's complaint or original diagnostic impression. "In the United States over 100,000 persons with psychiatric illness that have been permitted to become chronic are annually sent to public institutions."[1] It would seem logical to suppose many of these patients would not become chronic hospital cases if adequate psychiatric understanding and treatment were available.

There are not enough trained psychiatrists to handle the gross and seriously maladjusted, much less to cope with the many who have minor and everyday problems. Hence a great part of this responsibility falls upon the general practitioner or family doctor. To him the patient comes first with complaints, not of interpersonal problems but usually of somatic difficulties. It is thus important for the doctor to be able to determine when the complaint is primarily an expression of "person" pathology. He will be in a better position to do this when he has some awareness of the essential points in the way one grows and adjusts.

From the time one is born until his death the human being makes some sort of adjustment between things he wants and things he can have. People have urges, desires, appetites, drives, and action tendencies which they try to satisfy, achieve, accomplish or obtain. Sometimes this function of the person is strong, and again it may be relatively weak. Everybody has an acquaintance who is always full of energy, on the go, and who never seems to tire out. Also, we all know persons who are always barely awake, who just sit and let the world go by. A variety of factors modify and influence, help and hinder our strivings and efforts. To simplify matters these factors may be grouped under certain headings, though it is to be remembered they cannot be separated from each other in life.

THE AGE FACTOR

Speaking broadly, one goes from complete dependency at birth through a stage of independence in adult life to a return in old age to a state of dependency. During childhood a person advances from complete helplessness to the threshold of independence. He acquires certain patterns of behavior necessary to live in a protected and providing environment (walking, talking, caring for personal hygiene); learns that there are other people besides himself in the world; enters into circles beyond the immediate family (school, church, community) and tries to stand on his own feet. Before the end of the third decade the individual has completed his

(1) The Care of Psychiatric Patients in General Hospitals. F. G. Ebaugh, American Hospital Association.

formal education; has matured physically; becomes emancipated from his parents and begins to assume wider responsibilities. As an adult he has a vocation in line with his opportunities and ambitions; enters into marriage and the raising of a family and participates in communal (religious and civic) activities. As the years pass there is a narrowing of activities and interests; physical and physiological functions alter. One gradually shelves responsibilities as he reaches the last stage in life's span when he becomes more or less dependent.

PHYSICAL-CHEMICAL FACTORS

Physicians are especially trained to view the physical-chemical factors; they know about the influence on development and behavior of endocrines, vitamins, toxins, infections and similar things. Lack of brain tissue or destruction of it obviously affects one's ability to adjust and adapt, primarily through impairment of intellectual capacities. The microcephalic idiot, the man with a severe head injury, and the senile arteriosclerotic patient all show deficits in memory and judgment due to structural alterations. The apathy and sluggish behavior of the severe hypothyroid patient is well known; the confusion and delirium in the drunk is correctly interpreted by physicians. This same reaction to drugs is occasionally seen and many infectious diseases temporarily alter one's behavior. Restlessness, irritability, lack of interest and other behavior reactions are often associated with somatic discomforts and defects.

THE INTELLIGENCE FACTORS

By intelligence one means the ability to reason, to learn, to direct one's behavior effectively, to do abstract thinking. In case of gross deficiency along these lines, the significance is familiar to everybody. Actually it is a factor often slighted in evaluating a person's behavior. Unsatisfactory progress in school is often attributed to lack of concentration, and irregular attendance may be blamed on the necessity for the child's assistance at home, whereas the real difficulty lies in an inability to adjust to the school curriculum. Many persons appear in courts and VD clinics because their reasoning ability is below certain standards. Some individuals can perform certain routine tasks, such as farming or mining, quite satisfactorily, but if transferred to unfamiliar employment such as that found in a defense plant are unable to adapt satisfactorily. Common sense indicates the wisdom of evaluating performance in the light of capacity. Expectations beyond ability lead only to maladjustment.

EMOTIONAL FACTORS

Everyone will acknowledge the importance of emotions in our behavior. Daily in one's life things occur which tend to soothe and relax. There are, in contrast, situations which disturb the individual's security, interrupt his progress and upset his equanimity. In either event the human being attempts to achieve, maintain or regain his security and composure. This mobilization of resources by the individual to cope with a situation is known as emotional response. A clear cut illustration of such behavior is seen in the infant who cries because his feeding is interrupted. Food is satisfying his hunger when there occurs an interruption to which he responds in his limited manner. Quite understandable! Most behavior is not so simple and direct, however, such as that demonstrated by the boy who smashes a man's window because he doesn't like him. Living as we do in social groups, one finds it necessary to be selective in his social relationships. Throughout life, especially in early childhood, various factors modify and alter the way we feel about things. We develop attitudes and acquire methods of responding, which certainly are not simple and direct, so that we can get along with those about us.

If we consider some of the components of our emotional living, perhaps we may secure a better understanding of why we behave as we do. First of all, emotional response is a person-function. Various terms such as fear, jealousy, pleasure, resentment, love and satisfaction can be used to describe the state of person-feeling at any one particular moment. The emotional response, since it is a function of the person, is manifested throughout the person. It is reflected in one's posture, physiognomy, organ and system functioning (respiration, cardiac activity, muscle tone, sweat glands) and manner of thinking. In accompaniment with these physiologic alterations the individual appreciates to a greater or lesser degree various subjective feelings (ease, tension, relaxation, and anxiety).

The capacity for emotional response varies greatly among individuals; some are phlegmatic, others volatile. But as the individual grows and changes in time likewise his emotional functioning undergoes alteration.

Through learning and experience the growing person acquires various habits and emotional attitudes which affect the way he deals with situations. In very young children we observe that emotional responses are very diffuse and coarse. They get mad all over; from head to foot they are red. Just as the child develops muscular coördination and discrimination so can he develop a capacity for new

emotional reactions such as sympathy and resentment, and ways of displaying various different shades of the same reaction. Disappointment may provoke a wry smile in the adult while in the child there may be a tantrum. When persons and things repeatedly touch upon our existence, they come to have a meaning to us about which we develop an attitude. Our attitudes, that is, our likes and dislikes, our prejudices, aversions and sentiments are expressed in the habits we have developed to cope with the world in which we live. These habits are the means by which we avoid insecurity or discomfort and seek composure and security. As has been pointed out this involves adjustment in the social group with which we are affiliated. Broadly speaking, if one is to survive and get along in the group it is necessary to be *like* the group and to be liked *by* the group. However, at the same time our own wishes, our urge to be independent, different and unique and the self-centeredness with which we start life, mean that many compromises and adaptations must be made. If the adaptation is adequate, effective and acceptable, all is serene. Frequently this does not occur; and one becomes tense and anxious.

Anxiety can be helpful, speed one's action and stimulate progress. Also it can be harmful, make one ineffective and bring disorganization. Where there is mild anxiety release from tension may occur promptly by definite action. This is seen in athletes whose pre-game tension disappears the moment the whistle is blown. Because activity tends to reduce anxiety, it is easy for a person to develop habits of behavior when anxious, such as lighting a cigarette, fiddling with a pencil or whistling in the dark. Over a period of time one acquires numerous patterns of behavior by which he deals with "anxiety producing situations." Numerous examples of the simpler patterns are seen in everyday life where we shift responsibility, blame others and excuse ourselves. What child doesn't say, "He picked on me"? What autoist doesn't say, "The light turned against me"? What person doesn't utilize physical symptoms as an excuse since illness provides an easy avoidance of responsibility without incurring censure. Some of our emotional habits improve and others continue unchanged. One can say that in general emotional growth is uneven and irregular.

The physiological accompaniments of anxiety are responsible for many people seeking medical attention. There isn't an organ or system that cannot reflect anxiety. Palpitation, deep breathing, gastric discomfort and sweating are easily recognized as appropriate to an obviously frightening situation. The occurrence of gastric or cardiac symptoms in less recognizable situations of danger is frequently attributed to organ pathology instead of person difficulties.

John Jones reported the following complaints: "Headaches, feeling tired, stomach trouble, difficulty in sleeping, blind spells, pain in the back, lump in the throat, numbness in the legs, no sex interest, and inward nervousness." He had made numerous diagnoses on himself and consulted doctors because of "sinusitis", "ulcer", "heart disease", "arthritis", "kidney trouble", and "gland trouble". All in all he saw seven physicians and was in two hospitals during the past year. He received "shots for change in life", "drainage of the sinuses", an "ulcer diet" and many prescriptions for pills and liquids.

The stomach trouble began shortly after marriage and was a manifestation of anxiety over increased financial responsibilities; three children, all unwanted, were closely associated with the development of other somatic symptoms. John himself felt "all my troubles are tied up with nervousness and troubles at home."

SOCIAL-ENVIRONMENTAL FACTORS

No matter how large a role the various "factors within the person" play it is impossible to evaluate behavior without knowing the circumstances or setting in which it occurs. It is out of the question to list, much less describe, the range and complexity of the various events one meets in life. However, it is practical to outline certain situational influences if one bears in mind two points: (1) the importance of all events lies in the meaning it has for the individual, and (2) the pattern of response to things is acquired in childhood. With these points before us, let us consider certain situational influences amongst which the home looms large.

A multitude of things stand out in their relation to the need of the child for protection, care, guidance and examples to imitate. Among these influences are the inter-personal relations between those in the family group. Parental friction, dissension, alcoholism, in-law squabbles, religious differences, and divergent ideas with regard to training, do not make for ease in the early stages of a child's development and social behavior.

Parental attitudes certainly color the offspring's behavior. A protecting, solicitous and indulgent parent does not stimulate the child into learning how to stand on its own feet but rather prolongs the period of dependence. Fighting the youngster's battles does not make him more fit to compete with others in life. When a child is unwanted by one or both of the parents, there may arise a feel-

ing of rejection or hostility. This may lead to neglect and cruelty which in turn interferes with reasonable care and training of the child. How far a child will go in school often is determined by parental standards. The mother and father can aid or hinder the adolescent in his groping for emancipation and independence. Giving too much responsibility, or not alowing any, will materially affect adjustment. Parental attitudes can influence the selection of a vocation as well as a partner in marriage.

A child will copy many of its parent's social manners so the significance of economic and moral standards is obvious. An addition to the family always poses new problems in adjustment.

The neighborhood in which the home is located plays an important role. It is here the growing child forms his first social contacts with a group and has a chance to compare himself with others. He is naturally more at ease in learning how to get along with others if the neighborhood is congenial rather than one where he is ignored or rejected because of prejudices (racial, religious or economic). The oportunity for playmates, schooling, recreational outlets and social activities is determined largely by the structure of the community.

The school looms large as a situational factor for it is there that the child experiences outstanding events. Under supervision in a group of his own age he is supposed to acquire knowledge and learn to participate in group activities so that he can live satisfactorily in a communal group. Difficulties will tend to arise when there is interference with the school's function.

We have sketchily outlined some of the stresses and strains that help and hinder one as he grows. It is important to realize that these influences are multiple and relative. There is no all important significant single factor responsible for adjustment or maladjustment. Each day's experience enters into the moulding of one's behavior. The way in which one thinks and feels about his experiences is far more important than the actual circumstances or persons involved. To some a death brings grief and sorrow while to another it offers release and independence.

It is of great value then to know how a person feels and thinks about these factors in his life and how he has responded to them. There are many ways of adjusting and adapting oneself. Some are simple, direct and obvious; others are complicated, devious and difficult to comprehend. For the sake of illustration let us accept the view that children's behavior is an open book. The young child with relatively few needs and urges is wont to express himself with directness and frankness that at times is disconcerting to his elders. However, as interest and age increase, there is a greater demand for adjustment and responsibility. This all means there will be conflicting urges and desires which make adjustment more complicated and behavior more complex. When one reacts in an adequate, effective and acceptable manner, life goes along very nicely without strain. But each day there arise situations in which our responses are unsatisfactory. This may stimulate us to improve, or we may continue an unsatisfactory form of behavior. At any rate, we develop patterns of behavior to deal with life. Life in our culture is in social groups. Man must live with himself and with others; he must compete and conform; he finds it wise to control his feelings and necessary to protect himself from many threats. It is little wonder that strain arises in and between persons. This strain, insecurity or dis-ease manifests itself in many forms and ways. It may be in the nature of ideas or thoughts, moods or emotions but very often includes important somatic and physiological aspects. The somatic and physiological aspects are especially significant in general practice. There is not an organ or system whose function may not be the mouthpiece for the expression of person problems, especially those centering around emotional attitudes. The way this comes about in principle can be illustrated by a specific case:

A child was brought to the hospital because of abdominal pain that was first interpreted as appendicitis. Subsequent history revealed the following sequence of events: "I was going to the movies but mother made me go clean up the yard. I was mad but went out and burned the leaves. A wind was blowing and suddenly I thought it might spread to the house. I thought mother might get burned. I got scared and my tummy started to hurt."

Problems such as this come to the family doctor first. If the correct "diagnosis" is made and appropriate therapy instituted, many potential psychiatric casualties will be averted. How can the doctor arrive at the true diagnosis? One starts with the complaint presented by the patient and allows him to tell his story spontaneously and freely. The attentive listener picks up many valuable tips.

Psychiatrists are frequently told by their patients "you are the first one that has listened to my story." Some doctors translate the patient's statements into medical terms and by so doing run the danger of

misinterpretation and often eliminate especially significant data on emotional and environmental factors. If the physician records verbatim the first dozen or so sentences in which the complaint is presented, far more will be learned than he may realize at first.

Mrs. Doe came in saying, "Dr. Blank said I had a chronic appendix. I've had these stomach pains ever since I've been married. The doctor told me my womb was backward and treated me for that. It got better but everytime I see mother it gets worse. Could it be something I ate? My meals are so irregular because my husband don't come home regular."

After determining "what is the complaint"? the physician should inquire if there are any other difficulties. Then he goes on to develop the present illness in a more organized manner.

The physician should aim to collect a rounded picture of the patient in his setting. This means a little more time on the initial visit but is actually time saving in the long run. One's goal is to have a living picture of the person who is sick. Perhaps the simplest way is to draw from the patient a rather detailed account of his "average day and night" i. e., what time he arises, how he feels when he eats, what he eats, and so on through the twenty-four hour period covering the individual's work, recreation and rest. Personal history and family history give a breadth and depth to the picture of the patient and his environment. It is important to not elicit details about work history, marital and social adjustment, ambitions, disappointments, satisfactions, worries, aversions and special abilities. The reader of clinical history should have the feeling, "I know that person".

During the period in which the history is secured and physical examination made, the alert physician can note outward manifestations of emotional attitudes such as restlessness, fidgeting, blushing and sweating. In addition, frankness or hesitancy in revealing details, the spontaneous denial, the repeated protestations, all can be valuable suggestions to the wise physician.

Throughout the examination a doctor always should be curious about "what happened"? why did it happen? what purpose did it serve?" At the conclusion of the examination the material must be sifted, sorted and analyzed. This process is simplified if one subdivides the facts into the following groups of factors:

(1) The *Physical status*: health nutrition, condition of organs and systems.

(2) The *Intellectual abilities*: original endowment, special abilities, use of ability-achievement.

(3) The *Emotional factors*: satisfactions, manner of getting along with people, fears, worries, ambitions.

(4) The *Environment or Social features*: Home, neighborhood, family background, church.

This insures a rounded picture of the patient and his setting and helps one avoid diagnosis by exclusion. Then a summation of the pertinent information is made. If the doctor summarizes the outstanding features in everyday terms he is less likely to be confused by diagnostic labels and can plan a more practical therapeutic program. After all, it is the patient, not the diagnosis that is to be treated. Since each patient is an individual, so must the therapy be designed for him as an individual and in his environment. Ideally, the doctor's goal should be the adjustment of all that is maladjusted in the patient and his environment; practically, he tries to help adjust that which can be adjusted. No situation is so hopeless that something about it cannot be improved. One tries to see what can be modified both in the patient and in his setting. Attempts to change the individual's physical status, intellectual functioning, emotional attitudes, and social setting must be made in line with what is practical and reasonable. Psychiatric treatment is most effective when given promptly. In a sense all the doctor does for the patient, including the history and physical examination, is in the nature of psychotherapy. Strictly speaking, psychotherapy is the release of anxiety through discussion which leads to understanding. Suggestion, education, reassurance, pointing out assets and helping the patient help himself, are a few common sense therapeutic aids used by wise physicians.

In the words of the renowned internist, Dr. Louis Hamman, "The physician studies and practices psychiatry continuously even when he protests that he has not the least knowledge of formal psychiatry. It is the chief instrument of his success even though he may practice it unconsciously."

ALL WORK AND NO PLAY—

No man's day should ever be so long that it demands an extra drink of whisky to keep him going. No man's bank account is worth a coronary or a cerebral accident. And what fools men are to work themselves to death, paying big insurance premiums. Too often the insurance gets the widow a luxury-loving, second husband who can easily make her forget that her first husband had no time for leisure, for luxuries, for loving, or for loafing.—The Canadian Doctor.

PSYCHIATRY AND PUBLIC HEALTH

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INTRODUCTION

The public health aspects of mental hygiene cover extensive areas in our society. I am more familiar with the subject of mental hygiene as a function of psychiatry than mental hygiene as a part of public health. With the desire to utilize the knowledge of psychiatry in public health work, it is my belief that we must first be basically oriented in the philosophy of psychiatry. Therefore, the following points will be discussed in this paper:

(1) Some of the fundamental differences in the points of view of public health, medicine and psychiatry, (2) the anatomy of personality, and (3) the relationship of psychiatry to public health.

THE POINT OF VIEW OF PUBLIC HEALTH

In critical periods of a community or a nation (war, floods, catastrophes and economic depressions) the welfare of the group takes precedence over the welfare of the individual. During peacetime we travel our chosen way, fostering primarily our individual success and pursuing our personal happiness. During wartime, personal goals and ambitions are temporarily diverted and submerged and the welfare of the group becomes paramount. It is of interest, that in the past the medical corps of the army has made significant contributions to problems of public health. This is due, probably, to the philosophy inherent in an army in which the group with its massiveness is the dominant concern. It is not fortuitous that during wartime there is a heighthened activity in all the spheres which involve groups or nations. In like manner, the field of public health becomes more significant and prominent in society. It is gratifying to realize that public health in West Virginia has reached the stage where it is striving to incorporate the recent knowledge of psychiatric principles.

The approach of public health has emphasized the community more than the individual. One of the first problems that occurs to us is the problem of the epidemic, and this being true, it is through the efforts of public health that the science of epidemiology has been evolved. The word "epidemiology" originates from the Greek words "epi" which means "upon", and "demos", which means "people" —a collection or group of persons. In the past, public health has been more concerned with factors of a material, physical nature, e. eg., water, food, air, disinfection, contagious diseases with quarantine, sanitation (removal and disposal of sewage), and so forth. In fact the papers which are being presented today reflect the broad scope of the field of public health.

Just as every science has its specific methodology, so the scientific expression of public health has been crystallized in the use of vital statistics which deals with the life history of communities or nations. This emphasis has led to our interest in the incidence of illness, such as rates of morbidity and mortality. Statistics are based upon the study of quantitative data. Thus, data that can be expressed numerically are concrete, tangible, and relatively easy to obtain. In view of the simplicity of the factors involved, it was possible to create and establish rules and regulations so that the community or nation could be advised accordingly.

The field of public health has been closely related to general medicine. However, there are some general differences, one of the salient differences being that general medicine concerns itself primarily with the illness of individuals, and secondarily with the illness of a community. Nevertheless, in the field of general medicine the methodology is a different one, in that emphasis is placed upon the study of the individual case.

POINT OF VIEW OF PSYCHIATRY

Psychiatry has begun to come into its own. It received its first impetus following World War I. Then came the new, or rather re-awakened interest in the field of psychosomatic medicine, with the realization that every illness of an individual has a psychological component. Finally, with World War II in which such a high incidence of neuropsychiatric difficulties are being reported, and with the past experience of the draft boards with neuropsychiatric rejectees, the importance of psychiatry became very obvious.

Mental health deals with the adjustment of the individual as a person within himself and to society. Psychiatry deals with the disorders of the person—his adjustment or maladjustment to the reality in which he lives. It is easier to understand the adjustment of the body at a physiological level, where a balance or equilibrium of certain forces is constantly maintained. It is well known that the temperature of the so-called normal individual is 98.6 F., that the basal metabolism varies between a plus ten and a minus ten, and that the chemical constituents of the blood and tissues range between certain

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fixed levels. Even at the level of physiological adjustment, complex processes such as immunity to disease, resistance to disease, tolerance to drugs, and the desensitization to toxins occur as natural methods of defense against infections or trauma.

What do we mean by the adjustment at the psychological level? At this level the aspects of the person are more intangible and more difficult to evaluate. Mechanical techniques and laboratory procedures are not as available or as useful to the psychiatrist as they are to the general physician. Inasmuch as the data of psychiatry consist of a person with his feelings, thoughts and actions, the psychiatrist must resort to the tools which will best express these factors. He must describe and interpret these factors so that they can be universally understood—our only tools are words in a special framework of reference. This procedure, however, does not mean that such data are less real, or less significant even though they may be regarded as less scientific. At the psychological level the individual as an entity, as a self, must adjust himself to the outside reality, as you and I see it, and maintain an equilibrium, between his drives, his agency of control and his conscience. In turn this integration leads to his capacity to work, to his ability to function as a responsible member in the family, and to serve as a useful citizen in society. In the attempt to adjust himself to society and to come to terms with his inner drives, conflicts may arise. The methods by which these conflicts are solved, determine the type of adjustment he makes. For example, the individual who is disappointed that he is not promoted in his particular job may become resentful and may develop a defensive reaction of "sour grapes." He may offer many excuses as to why he did not want the job, that it carried too much responsibility, and therefore, he is pleased to remain at his present post. In another type of problem, where he feels that everything is too much for him, that he cannot cope adequately with the situation, he may escape via headaches or have a great need to sleep excessively. Finally, if he feels that he cannot endure the harshness of life, it may lead to the creation of distorted thinking, with the development of beliefs which are contrary to reality, what are known as "delusions."

In the field of public health statistical findings of large numbers are relied upon to a great extent, whereas in the field of medicine, and especially in psychiatry, the individual case method has been the approach par excellence. To express these ideas somewhat differently, let us take John Smith. All of us could agree unanimously with the measurements obtained as to the height and weight of John Smith. It would also be possible to determine the rapidity with which John Smith can run. We can time him. By psychometric test his intelligence level, or his "I. Q.", can be gauged. However, when we come to the question as to the kind of person John Smith is, whether he is affable or cynical, what his feelings are, and how he gets along with his fellow beings, then we are dealing with factors that defy the quantitative expression as compared with the previous factors above described. There has been a tendency in scientific circles to accept the aforementioned factors which can be expressed numerically as being more valuable and reliable as scientific facts. Nevertheless, from the standpoint of John Smith, it is of more significance and has more bearing on his reactions to situations and to life to know him as a person and to understand the nature of his feelings.

Let us now turn to the anatomy of the personality. The main patterns of behavior for individuals are established during childhood. In the adult the degree of his neuroticism is proportional to the persistence of those elements of his behavior, which are consistent and appropriate for childhood. In other words, all of us as adults carry within us residuals from childhood. If we consider the child we know that the younger the child, the greater he is dominated by his emotions and instincts; the less he is governed by factors of control and the agency known as his "conscience." The older the child is, the greater does the degree of intelligence, reason, and control participate in his behavior. To present this conception more concretely it may be stated that between the ages of one and six years, the child is predominantly motivated by his instincts, in which the elements of "I want" are greater than at any other time of his life. The child declares in effect, "I want what I want when I want it." Although there is the aspect of the individual as an "I" or an "ego," which seemingly directs his wishes and feelings; nevertheless, it is as if there were a motor driving the individual, or forcing the individual to accede to the desires of his instincts. It is almost as if the motor were impersonal. The child who has erred tells his mother "I did not do it, 'it' did it." During this first period the elements of reason, control, and conscience are just beginning to develop. Those elements which occur under the proposition of "I want" consist of hunger, the feeling of love, sex, hate, the unconscious, the motor. Under the agency "I can" factor, are envisaged such elements as control, mastery, reason, ability, the driver. Under the "I must" there are conscience, duty, ideals, responsibility, morals, law, religion, and the police. Table I indi-

cates the relative strength (plus signs) of the personality factors.

The second period, known as the latency period, occurs between the ages of six and thirteen years; at this time there is a decline of the instinctive forces, a certain abeyance of these drives with a relative increase in the degree of discipline and reason. The period of puberty occurs between the ages of thirteen and seventeen, with a resurgence of the instincts and wishes, in which the individual finds himself in a delicate balance. These years are known as the "stormy years," and popularly, as the years of "adolescence." The maturity of the individual begins from seventeen years on with a balance in the factors of the "I want," "I can," and "I must." It must be borne in mind that this is a relatively schematic presentation of the personality. All these factors must be integrated harmoniously and the individual must simultaneously adjust and deal with the external reality or society. The equilibrium in these forces of the personality may be relatively stable but normally fluctuates with physiological changes (puberty, menses, climacterium and illness) and psychological traumata (separation from home, disappointment, and death of a loved one).

TABLE I

RELATIVE PROPORTION OF FACTORS IN PERSONALITY AT DIFFERENT AGE PERIODS

Age Periods-Phases	I Want	I Can	I Must
1-6 years Infancy Childhood	+ + + +	+ — — + +	+ — — + +
6-13 years Latency	+ +	+ + +	+ + +
13-17 years Puberty Adolescence	+ + + +	+ + +	+ + +
17 - adult Late adolescence Maturity	+ +	+ + + +	+ + + +

The atmosphere of a home colors the future development of the child. The manner in which the mother or father deals with the child and the manner in which the child reacts to either of the parents sets the pattern that becomes permanent for that child for the rest of his life. If the child is treated kindly, is loved and feels secure, he will deal kindly and lovingly with others. If on the other hand, he is beaten and neglected, he will seek to beat others, and will feel insecure. The physical and psychological health of the family in turn are dependent upon economic and social factors, and especially the general level of the community. At this point there is an important relationship to the field of public health, in that from studies that have been reported on delinquents it has been found that a fairly high percentage of delinquents come from homes that have been broken, where the attitudes of the parents have been inconsistent, and even irresponsible.

In describing the anatomy of the personality and the differences in the point of view in public health and in the field of psychiatry, the purpose has been to show the value of psychiatric understanding. This knowledge may be helpful to the workers in public health. Just as it is necessary for school teachers and physicians and other individuals who come in contact with children to have a neutral point of view, so is it necessary that the worker in public health have a clear understanding of psychiatric factors, not only as they apply to his clients, but also as they apply to the worker himself. It is important that the worker dealing with a specific situation in a family have a neutral attitude, which on the one hand is not too detached or too cold, nor on the other hand too sympathetic, thus risking too much personal involvement. The attitude in psychiatry that we encourage physicians to develop is expressed in the phrase "neutral sympathy."

The aim of medicine is to free the person of physical illness, so that he can function efficiently and be healthy. The aim of psychiatry is to free the person from psychologic illness and conflicts so that he can function efficiently and be happy; most of all so that he is able to carry on a gainful occupation, marry and have a home. Most of the illnesses embraced within the field of psychiatry can, for practical purposes, be considered under the heading of psychoneurosis, psychopathic personality, and psychosis. The workers in the field of public health will be confronted more with individuals whose difficulties lead to conflicts with society. Those individuals are primarily the psychopathic personalities, under which we might include delinquents, prostitutes, criminals, and alcoholics. They will have, also, to deal with the psychotic individuals, or those who have been designated insane from the legal standpoint, because of their inability to get along at home, or at work, or in society without necessarily running afoul of the law. A very important distinction between these two groups and the neurotic group is the fact that the neurotic individual suffers unto himself. The first two groups cause suffering to others and to society.

Although it may seem that much more emphasis has been placed on the need to understand the individual as a person, it should be borne in mind that the ideal approach to the problem of public health would be an integration of public health methods (communal) and psychiatric methods (individual).

As the psychiatric point of view permeates the field of general medicine, with the recognition of the tremendous role emotional factors play, not only in individuals who are primarily neurotic but also in individuals with medical and surgical conditions, the need for psychiatric understanding will expand rapidly. Many social problems, e. g., venereal disease, confront the public health worker, and his aim is to help the individual and protect society. If, in addition to the utilization of all available techniques, he is capable of dealing with the afflicted individual from a psychiatric point of view, much will be gained. The more the emotions and feelings of the sick person are engaged, the more will he participate in complying with regulations and society will benefit accordingly.

Public health has always strived to be preventive in medical conditions. Psychiatry has garnered a large body of data which are ready for application. It may be true that more is known about the negative conditions that lead to mental ill health than of the positive factors that foster sound mental health. Nevertheless, if the psychiatric point of view prevails, the worker in public health can successfully apply psychiatric principles in a definite preventive direction.

Aside from many problems that public health workers encounter in civilian life, with the return of veterans to the community, new ones will be added. Inasmuch as a certain percentage of the returning veterans will have been discharged for neuropsychiatric reasons, this will be all the more reason for the greater need of extending the field of mental hygiene in public health work.

If the workers in public health can encourage and stimulate (1) the development of psychiatric clinics as an integral part of the community in the same manner as they have fostered "well baby clinics," nutrition clinics, et cetera, (2) the formation of psychiatric departments in general hospitals, and (3) a division of mental hygiene in the state, the first steps to progress in a mental hygiene program of public health will have been taken.

CONCLUSIONS

(1) The scope of public health increases rapidly during critical periods, as the welfare of the group takes precedence over the welfare of the individual.

(2) The problems of public health are primarily of an environmental nature, and are more concrete and tangible. The methodology of public health is reflected in vital statistics; and methodology in psychiatry is the individual case study.

(3) The understanding of a human being by way of the psychiatric point of view will enhance the participation of the afflicted individual in carrying out whatever measures are necessary for himself and society.

(4) Incorporation of the psychiatric point of view in the field of public health should offer an ideal combination in fostering mental hygiene and public health, thus prevention in psychiatric conditions may become as much a reality as prevention in medical conditions.

TOMORROW'S PSYCHIATRIST

Psychiatry — broadly defined—is more than a medical specialty. It contains within itself great potentialities for broadening our knowledge, not only of the sick man but of healthy communities and nations; it can strengthen the base of moral and ethical theory; above all it can contribute greatly to improving the mechanics of social reform.

The new vistas of productive work are but dimly outlined. The developments of the last hundred years have been in other directions. Psychiatry has made great strides in understanding many hitherto obscure realms of the human mind and its infinite vagaries. It has made important advances in coping more intelligently and effectively with patients suffering from psychiatric disorders. But the cautious critic cannot dispel the feeling that despite this very real progress, psychiatry is still in its infancy as regards problems of pathology and therapy. There are still so many important factors which remain uncorrelated, so much behavior that defies comprehension.

Therapy, too, remains circumscribed. The seriously ill can be made more comfortable—that is about all. New advances in psychotherapy augur well for a successful attack on a large area of hitherto intractable conditions. We are probably only at the beginning of shock treatment, sedation, and many new approaches. But extreme optimism is surely out of place.

Without establishing an exhaustive list, four major institutions can be enumerated of primary concern for preventive psychiatry as of the present moment: the church, the school, the Army, industry. These are the cauldrons in which the minds of successive generations are shaped. To this list must be added, of course, the most important and elusive of all—the family. The approach to the family will always be circuitous—through the physician, the social agency, the adult educational group.

The way of a psychiatrist is cut out for him. If his lessons are to be learned, he must find instructors to teach and practice. The family physician and the minister must not be neglected. Equally important is the school teacher and the captain of a training battalion. Employers also are worth cultivating.

It is very much of a paradox that the offerings of psychiatry were spurned by the medical profession for a considerable time and even at this late date the former negativism has not really been dissipated. But if psychiatry is to broaden its field of endeavor, it must win the wholehearted support, if not of this, then of the next generation of doctors. Even in this day of specialization, the family physician remains a potent influence. He serves not only as the healer of the sick but also as the confessor to the troubled. As practicing physician, he should be psychiatrically minded; as confessor, he must be. One battle that psychiatry must win is in the medical schools of the country. It is apparently making progress, but a renewed drive is overdue.
—Eli Ginzberg in Bull. Menninger Clinic.

MENTAL ILLNESS---A PUBLIC HEALTH PROBLEM

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The medical profession in its effort to contribute to the longevity and happiness of humanity has long sought to reduce man's need for its ministration by devising means of prevention of disease. A variety of agents attack the human organism to impair its strength and efficiency and to shorten its life. Much has been learned as to the identity and character of many of these enemies. For example, various bacteria have been isolated and studied including some of the most deadly pathogens. Vaccines and antitoxins have been prepared to prevent or to combat their activity. Typhoid epidemics have been conquered and diphtheria has ceased to be a major threat to life. Progress has been made in other fields as in cancer and poliomyelitis research, and much more is to be expected in the future. Tuberculosis is better understood and pellagra, once a major problem in the South, has become preventable.

Fifty years ago acute infections headed the mortality lists. This fact is no longer true and the Public Health Service has played a dominant role in effecting the reduction of contagious and infectious diseases.

On the other hand, we must note the alarming fact that deaths by violence have multiplied enormously. Accidents and suicides as causes of death in New York City increased from less than one-tenth of one per cent to 6.5 per cent, almost a seventyfold increase, in the fifty years prior to 1936.

A study of statistics of morbidity reveals that disorders in which psychic factors tend to predominate have increased in incidence. Accidents are common and costly. Insurance companies have found that upwards of 10 per cent of the time loss due to physical disability on a given day results from accidents, most of which should be preventable. It is said that 98 per cent of industrial accidents fall in this group. Between 80 and 90 per cent of accidents are due to factors resident in the personality of the victim. "Whatever the personality factor is, it is not a matter of slow reaction time, low intelligence, or anything readily determined by psychological tests." Furthermore, the victims have a tendency to repetition of accidental injuries. Strange to say they seem to be unable to profit by experience.

The science of epidemiology has reached the stage in which it is fairly adequate to insure protection in communities properly served by local health units. Preventive medicine has made long strides in its war against epidemic diseases. There is no corresponding system of attack upon those diseases that remain endemic. In this field mental illness occupies the most important place.

In somewhat over six hundred hospitals for the care of mental patients in this country there are as many beds as are found in all the general hospitals combined. Well over a half-million patients reside in the mental hospitals at a given time. In spite of this fact many persons needing hospital care for mental illness are unable to gain prompt admission to a hospital. Of the residents approximately 80 per cent are insane, 17 per cent mentally defective, and the remaining 3 per cent are afflicted with epilepsy or some nondescript disorder other than psychosis. At the same time there is a large segment of our population so affected by mental disorder of milder degree, or because of good behavior in the community are not committed, who are unable to make any significant contribution to the industrial life of the nation. Previous to the war it was known that approximately 5 per cent of the population required mental hospital care at some time in life. There has been an increase in this figure since Pearl Harbor.

Actual expenditure for the care of inmates of mental institutions is a matter of record, varying from year to year and probably now about a third of a billion dollars per year. On the other hand, loss to industry cannot be accurately estimated, but it certainly amounts to a great deal more.

Mental disease is a public health problem of great importance. It is not confined to those persons who require institutional care, although they are the most obvious victims. Care of the insane has been recognized as a public responsibility for many decades. There has been an evolution in mental institutions in the past century from the level of simple confinement for public safety to the level of treatment of the psychoses. In 1917 Dr. Thomas Salmon wrote, "Every stage in the long and painful history of the care of the insane can be actually witnessed in some American community today." Speaking of a county poor farm he stated, "In these cages, abandoned to filth and unbelievable misery, lie the insane poor of this pleasant, fertile, prosperous American county. . . . All of those distinctions which elsewhere govern the lives of human beings are merged in common degradation here." In 1937 Deutsch wrote, "There may still be found in the United States districts where the treatment of insane persons in jails and poor houses is as inhuman as that which Dorothy Lynde Dix witnessed nearly a hundred years ago."

Mental illness is no respecter of persons. No one is so well endowed by nature with intellect as to be

rendered immune to all the various forms which mental disorders assume. Mental disease is not confined to any particular social level, although it is true that a characteristic pattern can be traced with reference to various types of psychoses. For example, insanity is more common in cities than in rural communities. It is possible to go further and state that certain sections of the city are characterized by prevalence of certain types of psychoses. In Negro districts paresis predominates and among the white residents of these districts dementia praecox is common. Catatonic reactions are found more frequently in sections inhabited by immigrants. Apartment house areas are likely to produce a predominance of manic-depressive psychosis. Ports of entry produce much larger percentages of psychoses than do inland cities of equal populations. These findings confirm the well known fact that mental illness is a disorder at the social level and that in seeking for its causes and means of prevention we must study the social factors involved.

Interpersonal relationships play an active part in the problems of at least 30 per cent of patients seen by physicians in general medical practice. These are the patients who do not succeed in meeting the demands of everyday life and who translate their emotional problems into somatic complaints. They are victims of mental illness although few of them would be willing to acknowledge the fact. They do not yield to symptomatic treatment because the systems or organs to which they refer their somatic complaints are not the seats of pathological changes. Emotional factors are responsible for their symptoms. Psychosomatic medicine is attracting more and more attention and many physicians are discovering the need for re-orientation in their attitude toward the patients who continue to come with various and sundry physical complaints for which no organic basis can be found. The Council of the West Virginia State Medical Association has a committee at work preparing a plan for postgraduate instruction for practicing physicians of the state dealing with the application of psychiatry as it relates to the general practice of medicine. There is a great need for this instruction and a growing interest in such being manifested by the medical profession. Only in recent years has an effort been made to include in the regular medical curriculum adequate instruction in the fields of mental disorders.

We have mentioned the group of persons who are currently resident in mental hospitals. Another group includes those persons who have been treated for mental disorders in institutions and have been restored to the community by parole or discharge. Many psychotic persons remain in the community because their conduct has not been incompatible with the community, and they are not forced into institutions for sentimental reasons. A much larger group includes those persons with the milder forms of psychoses but without antisocial tendencies, the neuroses and personality disorders characterized by somatic complaints, senile and organic disorders of the nervous system. A fifth group includes children with behavior disorders.

Closely associated with any consideration of mental disease as a public health problem is delinquency and crime. Space does not permit of exhaustive treatment of this important topic, but it is worthy of note in passing. Alcohol is one of the important factors involved in the causation of mental disorders, and it is also one of the agents most commonly associated with delinquency and antisocial conduct. There are three arrests for drunkenness in every hundred persons annually. For seven to nine deaths per 100,000 annually from alcoholism about fifteen become first admissions to mental hospitals. In the states of New York and Massachusetts the alcoholic psychoses amount to about 7 per cent of all first admissions to state hospitals. Since 1920 there has been a steady increase in arrests, deaths and incidence of psychoses due to alcohol. The previous drop in figures relating to alcoholic casualties was probably influenced by a variety of factors, not the least of which was the intense temperance educational movement. The rise began early in the era of national prohibition and was probably influenced by the quality of alcoholic beverages consumed.

It might well be said that the world is now undergoing a pandemic of mental disorder. We read with horror of gross sadistic practices that have prevailed in Europe and Asia. Perhaps our own sadistic impulses cause us to feel satisfaction when we note the many suicides that are following the overthrow of the Third Reich. *Mein Kampf* and all of Hitler's speeches are replete with rationalizations and paranoid projections. He was the closest approach to a true paranoiac to occupy the center of the stage in human history.

The attack on Pearl Harbor precipitated our nation into the global war, throwing out of adjustment the family and personal relationships of practically every individual in the entire population. Men who volunteered or were drafted for service in the armed forces were forced to make a readjustment under conditions that presented insuperable barriers to many of them. Some who were rejected developed depressions or other reactive psychoses. Parents and wives suffered and many of them responded to

the new conditions by psychotic reactions. Some of the men who were accepted for service broke down promptly with mental illness. Others made temporary adjustments but finally succumbed before reaching an active theatre of operations. About one-third of those returning with medical discharges are neropsychiatric casualties. Many thousands of people who would otherwise have succeeded in living out their lives in normal adjustment in their communities in every part of the country have become victims of mental illness because of the war.

We have a fair example in the experience resulting from World War I to reveal the extent of the problem of care for neuropsychiatric cases. There were in the United States and its possessions 6,358 hospitals in 1941 and in that year there were 149,-319 more patients per day in the 596 neropsychiatric hospitals than in all the other hospitals put together. Fifty-seven per cent of the hospital beds of the Veterans Administration are in the neuropsychiatric units and additional buildings are being made ready. It has cost the federal government $35,000 per man for the neuropsychiatric cases that have been carried over from the First World War. In contrast to this figure the cost for a tuberculosis patient is between $7,500 and $10,000 and the frequency of tuberculosis among the veterans has been much less than the frequency of neuropsychiatric disorders.

I do not wish to be understood as implying that most of our returning veterans will be neuropsychiatric casualties. Too much emphasis is being placed upon the hypothetical problem of the returning veterans. Our victorious troops will return to their homes just as their ancestors have returned from the wars of the past. Among them will be found the future leaders of the nation. Most of them will find their places in the community and resume civilian pursuits successfully. Those who talk and write in such a way as to lead the wives and sweethearts who are waiting for them to fear some great psychological transformation are only adding to the confusion.

While our service men and women have been abroad fighting our enemies, changes have been taking place on the domestic front. Homes have been broken. Mothers have entered industrial plants. Children have been deprived of parental influence. New habits have been formed by old and young alike. Juvenile delinquency has increased and crime among young people has reached alarming proportions. These and many other factors add to the problems to be faced by us in the future.

What then is the problem which confronts psychiatry and how is Public Health concerned in its solution?

Experience leads to the conclusion that the state is the unit of government best suited for the control, maintenance and administration of the program of institutional care and treatment of the mentally ill. Most states have assumed the burden of caring for the insane, mental defective, and epileptic residents who become public charges through the process of commitment, although some states share the responsibility with local units or leave to the counties or other local units the entire responsibility. In a small number of states mental hospitals have been advanced to a relatively high level of efficiency. New York maintains a well organized and well administered Department of Mental Hygiene, far superior to like organizations to be found in most of the other states. Even so there has been much publicity in the past two years directed toward alleged deficiencies in the state hospital system, more particularly in some of the institutions in the metropolitan area where overcrowding and inadequate medical care were said to exist. Governor Dewey has had an investigating committee at work for the purpose of ascertaining facts and making recommendations for improvement. In West Virginia in recent years, particularly within the last several months, there has been much publicity of the fact that our institutions are overcrowded and that patients who need hospital care have not been able to obtain immediate admission to one of the state hospitals. Unfortunately many such patients have been kept in county jails pending arrangements for reception in a state hospital. Perhaps this experience is not unusual in other states as well. This may account for the fact that some counties maintain institutions of their own even in states that have assumed the general burden of the care of their mentally defective and mentally ill citizens.

The needs have outgrown the facilities. One superintendent in a neighboring state, speaking of the institution of which he had charge at the time, asserted that his hospital was several hundred years behind the times when considered in the light of the advancements which have been made in other fields of medicine. He was referring to the fact that mental hospital patients continue to be "inmates" whose care consists largely of detention on a ward that is inadequate in air space for the number of occupants, who are poorly clothed and indifferently fed, given a minimum of medical attention and that largely directed to obvious physical disorders, left to enjoy their autistic thinking, without adequate physical exercise in the open air and with little or no directed

activity. There are too few attendants to do more than keep order among the patients and the attendants are usually persons who have had little schooling and no training for the task of caring for sick people. They seldom have an adequate understanding of the opportunities for service presented to them or an insight into the importance of the work they are undertaking to do. This, unfortunately, is too often the picture of the state mental hospital.

The public has never been made aware of the economic waste represented by the static system that prevails in the various states with reference to the mentally ill. Men and women have an economic value as members of the social body. When illness occurs and they become wards of the taxpaying public they are lost as producing members of society and are transformed into public liabilities. Restoration to a producing level, and many of our so-called inmates are capable of restoration if properly treated, corrects this defect. Industry attempts to salvage its waste materials and to transform them into useful by-products but too little attention has been given to salvaging the inmates of our public institutions and restoring them to levels of usefulness.

We need national leadership in educating the American public to the need of reform in our treatment of the mentally ill. The Public Health Service has demonstrated its capacity for leadership in educational campaigns in other fields of public health. Psychiatry needs its active support in bringing the problem of mental illness before the people of the nation.

State institutions are inadequate in most states in a number of ways. They are usually overcrowded, making expansion of the physical plants necessary in order to improve the type of care and treatment that is needed for a modern hospital. The diets of the institutions are too frequently deficient to provide proper vitamin intake and nutritive values. Added to this significant fact is the further consideration that without proper personal attention many of the patients will not eat properly because of the peculiar attitude induced by their psychoses. Inanition and deficiency states are too frequently seen among mental hospital patients. Oftentimes the water sections are inadequate with insufficient toilet and bathing facilities. Many buildings lack porches to which the patients may be taken for fresh air when outdoor excursions are forbidden by inclement weather or lack of personnel for supervision. The building programs for the mental hospitals in most states are always far behind the actual needs at any given time.

Each mental hospital is equivalent in the number of its residents to a fair sized village. The various types of physical disorders commonly encountered in the community are encountered among the patients, such as acute infections, acute and chronic systemic disorders and accidents of various kinds. This makes infirmary care an essential part of the mental hospital. A suitable building properly equipped with modern hospital facilities including operating room, x-ray, laboratory, and the various diagnostic and treatment devices is essential. A qualified consulting staff consisting of medical and surgical and the various specialty groups should be available for aid to the resident staff. This is too frequently lacking.

The state hospital should offer, not only adequate care for the patients, but a well organized program of treatment designed to rehabilitate and to restore to useful activity those persons entrusted to it. This means, in addition to medical and surgical treatment, psychotherapy, occupational therapy, physical training, recreational activities and such other programs as may be devised to aid in bringing about the best social adjustment of the patients. Such activities are totally inadequate or entirely lacking in many state hospitals. A suitable system of rating the institutions in the different states with reference to the organization and efficiency of the essential services therein would be helpful in bringing to the attention of the authorities in the state the comparative quality of the care and treatment accorded their mental patients. This should serve to aid in elevating the standards of care in the different state hospitals.

It is essential that state hospitals be removed from politics and operated under a merit system. In some states this has already been accomplished while in others politics continues to dictate the conditions under which the mental hospitals are managed. The well known policy of the Public Health Service to require the merit system for all employees of units of the Service subsidized or assisted financially has been a help in bringing to the attention of public officials the need for a merit system in the eleemosynary institutions of the states. Progress is being made in this direction and we are justified in hoping for substantial improvements in the immediate future. An enlightened public opinion will support the efforts of our state officials to bring this about.

It is a mistake to think of the problem of mental health as confined to the state hospitals and other institutions caring for the mentally ill. The problems of psychiatry are as extensive as the population as a whole. In the community at any given time may be found persons who have been treated in mental hospitals, others who are mentally ill but who have

not attracted attention to themselves because their conduct has not been such as to require restraint, mentally defective individuals, epileptics, numerous psychoneurotics who could be aided in their adjustment by psychiatric techniques, and antisocial individuals including many problem juveniles. These various forms of mental disorders constitute a permanent public health problem. Extramural clinics accessible to all the people would greatly facilitate the handling of these individuals, eliminate the necessity for hospital care for many of them and aid in the social adaptation of others who are now more or less public charges or unproductive members of the body politic.

The United States Public Health Service has accepted mental illness in its various forms and manifestations as a public health problem. There is a Division of Mental Hygiene headed by a well qualified director who has an adequate conception and firm grasp of the momentous problem which exists in this field throughout the nation. He is ready to lend all possible aid to the states and local communities by means of his personal efforts and those of the members of his division. It is not desirable that the federal government should be placed in a dictatorial position over the states further centralizing the governmental function in Washington, but it is desirable that the states and local units shall avail themselves of the facilities provided by the federal government in this important field. The Public Health Service has demonstrated its strength in educational activities, especially in bringing to the attention of the people the problem of syphilis. A few years ago the patient hesitated to allow his doctor to take a specimen of blood for examination, but as a result of publicity and educational efforts, largely inspired by the Public Health Service, few if any patients, any longer object to a blood test. Most of them expect it and want it done. They have learned that syphilis is a public health problem of wide extent, that the spirochete is no respecter of persons, and that many innocent persons become its victims. We are justified in hoping that a similar campaign in the field of mental hygiene will serve to make the people of the nation alert to the needs for improvement in the mental health of the nation.

Many false beliefs and ideas persist among our people with respect to mental illness. There is still a widespread feeling that it is a disgrace to have a mental illness occur in a member of the family. Because persons who are suffering from mental disorders exhibit decided changes in personality, habits and conduct, they usually shock their relatives and friends. These illnesses do not elicit the same quality and degree of sympathy as do physical disorders such as heart disease and acute infections. It is not uncommon for the relatives to ignore the facts and insist that the patient's condition is not one of mental disease because they have the feeling that it is a disgrace to the family. They often procrastinate and refuse to have a psychiatric consultation for the same reason. Many times a frank injustice is done to the patient by such delay. When a member of the family is stricken with an acute abdominal pain there is seldom any hesitancy in calling for an examination by a surgeon, or in accepting his advice to take the patient to a hospital. When a parent is stricken with a heart attack the sons and daughters welcome the advice of the internist to hospitalize the patient for a careful study. It is quite different when the symptoms are those of mental illness. Instead of seeking the earliest possible treatment in a hospital devoted to the care of mental illness the relatives try everything else first. The chiropractor is almost certain to have his trial before the psychiatrist is consulted. The druggist will do a good business in the sale of the various well advertised sedatives and patent medicines before the psychiatrist is visited. We are constantly being told how many adjustments the patients have received by osteopaths and chiropractors. Then when the psychiatrist is finally contacted the relatives often expect that he will have some magic power by which the patient can be restored to normal thinking within a few days. They abhor the idea of the patient's being placed in a mental hospital where he will come in contact with other patients similarly afflicted. Education is the only means of combating such fallacies.

The Public Health Service contemplates a vigorous attack upon the problem of mental illness in the nation in the near future. To this end a bill has been introduced in Congress providing for the establishment of a neuropsychiatric institute to further research in the many fields of mental disorders and to advance the training program for psychiatrists and psychiatric workers. The program provided for is broad and its objectives are worthy of our full and active support.

THE FAMILY DOCTOR KNEW

Although psychosomatic medicine is a new term, it is actually merely the revival of an old principle and one which was practiced very successfully years ago by the old-fashioned family doctor in the days when medicine was an "art" and not a "science." Although he did not call it such, the family doctor practiced psychosomatic medicine. He was able to do this because of his intimate knowledge of the patient, the patient's family and his whole environment. Perhaps that is why so many people make such sympathetic and affectionate reference to the old family doctor.—H. Graham Ross, M. D., in J. Mich. St. Med. Soc.

SOME COMMON MECHANISMS SEEN IN FUNCTIONAL DISORDERS*

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The concepts among physicians concerning the scope of the field of psychiatry vary according to their training and experience. Some believe that psychiatry has to do only with the treatment of the "violently insane", those persons that any layman would recognize as mentally ill and urgently in need of care. Others hold that this field has to do with the "treatment of persons".

It is toward the latter point of view that modern medical thinking is rapidly swinging, for it is now well recognized that emotions as well as toxic, infectious, or metabolic factors may cause symptoms and illness. Since each individual has only one set of organs, one body, illnesses due to emotional factors as well as those due to toxic or other agents involve this one body. Therefore, it is not surprising that the symptoms due to organic illness, emotional disorder, or both, may be manifested in a roughly similar manner; that is a disturbance in the performance of a given organ may result in one symptom regardless of the cause of the disturbance. For example, one person's leg may be partially paralyzed due to the cutting of a certain nerve, in another individual it may be paralyzed as a manifestation of "hysteria". The paralysis in such individuals is roughly similar—the leg won't move—but there are finer discriminations which allow the physician to determine whether the paralysis is neurological or functional in origin.

It is the purpose of this paper to present some of the factors which must be considered during the study of the development of various illnesses, particularly those suspected of having functional components, and also to show how these alter our usual manner of living.

A very fundamental concept that most of us take for granted in medicine and other branches of science is that there is a *reason for what happens*, a cause and effect relationship between certain events. Yet strangely enough, this idea is frequently absent when the problems of mentally ill individuals are considered. People don't "just go crazy", "blow their top", "enjoy poor health", aren't just "acting sick" to make it difficult for *you* and their families. There is a reason for their difficulties just as surely as there is a reason for a diabetic patient going into coma when his diet is not properly regulated. A second idea that is fundamental has to do with the so-called "behavior" of an individual. "Behavior" is anything a person does. What we see, hear, feel or smell a person do, we accept as behavior, for it is apparent to our senses. What his internal organs do and, more important still, what he *thinks*, is often overlooked, but must also be considered as "behavior". When a person thinks, he is doing something. Thus we must consider the conscious actions and the automatic functions of our bodies as a part of "total behavior". When a physician accepts these two ideas he may be said to have a "psychiatric attitude" or better still a satisfactory medical attitude.

If we have the "medical attitude" we are prepared to investigate the basic needs of individuals. It is unimportant whether we speak of these as "drives", "needs", "urges", "instincts", or whatnot, as long as we agree that individuals (1) need to avoid being hurt, and (2) need some pleasure. The avoidance of being hurt does not imply alone to physical injuries, but to injuries of pride, prestige, etc. The threat of injury results in fear, worry, anxiety, or, as a psychiatrist might say, "insecurity". When something happens to interrupt the orderly course of events we are threatened with something unknown and this immediately gives a sense of "insecurity". A delightful example of "insecurity" was related to me a few days ago while planes were writing in smoke "HI NIMITZ" as a part of the welcome that Washington gave to one of our returning heroes. This incident reminded one of my companions about her first experience with sky writing. She had just come up from the subway in New York and saw many people looking up into the sky. She naturally looked too and saw written there in bold relief, "GOD IS LOVE" Since this happened many years ago and she was quite unfamiliar with even the possibility of sky writing, she thought it a supernatural manifestation accompanying the end of the world Her throat constricted, she had a sinking sensation in her abdomen, and her heart beat wildly. She was shaken, frightened, and hardly able to walk because of a profound feeling of weakness. You see, she was "insecure" at that moment and had physiological and mental manifestations as a result of it. I did not ask her where she had been or why she was not ready for the millennium.

"Insecurity" as the result of an injury or the threat of injury is not all on the negative side, for it has a very definite survival value. If one did not feel physical pain, he would be unable to avoid

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many more serious injuries. If a person did not feel "insecure" about walking across a busy street against a red light, he would not survive long. However, some individuals carry this survival factor too far and then we see symptoms which we say are due to a mental illness. For example, we as physicians know the value of washing our hands before eating. However, if in order to survive the onslaught of deadly germs a person finds it necessary to wash every time he touches an object or thinks of touching an object, he is so busy with his "compulsion" that he can get little else done. This is an inappropriate use of a normal defense mechanism. Here the fear has taken a specific, objective form in a "compulsion".

Fear resulting in insecurity may also be manifest in an inappropriate diffuse or generalized manner. A good example of this was seen in an enlisted man who had been recently assigned to a converted vessel which was being used as a training ship. Up until that assignment the patient had adjusted quite satisfactorily, but in his new duty he began to have trouble sleeping and eating. He worked incessantly and frequently took unnecessary risks in the performance of his duty. Perhaps even more bizarre was his refusal to accept shore liberty and his insistence upon working while his shipmates went ashore. Careful investigation of his past record indicated that he had previously been on two converted ships, both of which had boiler explosions while he was assigned to them. This, of course, gave a clue to his present behavior. It was common talk among the crew members of his present ship that the boilers were in bad shape. The patient could not admit even to himself that he was afraid, for he, like many others, was more afraid of cowardice than of death. He had to demonstrate to himself that he was not afraid. Therefore, he remained on board and took unnecessary risks. It was only after he was able to accept his own fear and to realize that he was not unique in his suffering that he was able to make a satisfactory adjustment.

When irregularities take place in our daily routine, we immediately try to explain or understand them, so that we may be able to get rid of the accompanying "insecurity". When we *think* we have the answer, we are usually satisfied. In this we see the basis of various cults and primitive religions that give many persons satisfaction.

Much of the desire for pleasure is satisfied by the attitude of the "group"; that is, what members of society think of an individual. Therefore, in order to obtain pleasure, individuals want to "belong" to various groups. In order to "belong", one must have ideas and attitudes similar to those of the other members of the group. For example, in one group a man may have to take a drink in order to be a good fellow. In another group it will be wise for him to reject such activity. The important point is this: many of the attitudes that we develop through instruction and experiences with other members of society eventually are accepted as "facts of life", "truths", or "that's just the way things are". When a person finds himself at variance with these "facts of life", he frequently believes that he is wrong and the group is right. Thus it becomes very important to know any given person's attitudes as well as their manner of variation from those of the group, if we are to understand why he acts as he does. A single stimulus may give rise to different behavior in individuals with differing attitudes. Present to one person a well prepared mint julep, and he will find it cool and refreshing. To another person it may appear to be merely one item in a series of things that would provide temporary relief provided a sufficient quantity is secured. To a third person the drink may seem to be the very face of the leering Devil himself.

It must be remembered that one very potent "group" attitude is that it is acceptable to be sick. If an individual becomes ill or has been injured, we sympathize with him, perhaps give him sick leave with pay, and otherwise make life easier for him. However, if this person were inefficient at his work he doubtless would be discharged. Generally speaking, men have a very good motive for being sick when trying events occur. Often a child will pretend illness to avoid school. Adults will say, "I have such a headache today. Won't you call me some other time?" Some children may even vomit to prove that they are ill and thus have an acceptable excuse for absence from school. This is a trick that the individual plays on the people about him in order to gain his ends. While this may be malingering, it is not mental illness so long as the individual does not also "trick" himself. When he does so, he is ill. This "trick" on the patient himself will work only when the ilness is less noxious than the situation to be avoided. It is much simpler to effectively treat the individual soon after the development of the illness, for the noxious situation may not be too far removed in space or time and thus may be easily discovered. On the other hand, if the patient is seen too late, the original cause may be very difficult to uncover.

A person reared in a family in which the father had heart disease may become so sensitive to such a condition that he watches himself constantly for its

development in himself. In a period of stress he becomes anxious and tense, and his heart beats somewhat faster and harder. He notices it and he thinks that he is now developing trouble similar to that of his father. This causes more insecurity and anxiety and a vicious cycle is established which does not require the original difficulty to perpetuate it. If continued long enough, he may develop actual organic changes in the heart and then his illness, to a certain extent at least, is irreversible. It is futile and wrong to treat such a person for "heart trouble" because such treatment confirms his suspicion that he has this dread malady. At the same time, nothing is being done to relieve the causative situation.

Frequently, symptoms are quite deviously related to the causative factor. A person may become so solicitous of his father's welfare that he must constantly check up to be sure that the parent is all right. This activity may seriously interfere with his own work. This is not infrequently the result of an intense dislike for the father which the patient cannot accept or admit to himself. He is supposed to "love his father" even though that father may be undesirable. Since he cannot wish that something dreadful will happen to his father, he begins to be afraid that something, over which the patient has no control, may happen to the parent. Since he "loves his father" he cannot permit this to happen, and he has constantly to make certain that he is all right. This earns for him not only the reputation of being a very dutiful son, but also the respect and sympathy of the group about him. This mechanism very nicely compensates for any guilt the individual may have about his own deeper feelings

We can carry the idea of guilt a little further and observe its projection outward. If one is accused of a "sinful" act, guilt is implied, and that person often believes that the "truth" has been spoken. If one tells himself that he has committed a wrong, one tends to admit the accuracy of such subjective judgment. It is easier to deny the judgments of others than to deny one's own. If such self-judgments are painful, it is simpler to project them outward, so that apparently they come from some one else. Occasionally they seem to come from the radio, or as special thoughts placed in one's head by another person, and can be denied or ignored. This is "projection" and is seen very frequently in paranoid individuals. It is not infrequently part of the mechanism of hallucinations. "Projection" is almost always intimately involved with "rationalization", that process which all of us go through at times in explaining, to our own satisfaction at least, why we behave as we do. "Rationalization" seems to be a reason to the person affected, but frequently it is an excuse to a listener. If it is especially good, it may even stand up as a "reason" with your listener, but the fact remains that it is only an excuse and may lead to the further development of erroneous attitudes.

Some patients who are mentally ill show a marked proclivity for changing the meaning of things and get satisfaction from imagination rather than from action. Either or both of these together may become a very nice defense mechanism when unpleasant stimuli are constantly received, provided the stimuli are properly interpreted. The business of getting satisfaction from day dreaming is a very nice defense for the person who cannot quite reach the level of his aspiration by action. It is again an inappropriate use of a normal defense or pleasure mechanism. Some patients of this kind are said to be suffering from schizophrenia.

There is still another form of defense seen in the "manic" patient. Here the activity is so increased that the individual flits from one idea to the next so rapidly that he is unable to follow any thought to completion. This is very convenient to the person who is being tortured by his own thoughts or by painful external stimuli. This increased activity keeps him from thinking about the painful material for any length of time. This is a rather common way for a normal individual to get away from his daily troubles. The busy executive may play golf and thus take his mind away from his problems for the present, or the housewife may buy a new hat. This process is pathological only when it dominates the person.

In the depressed phase of this illness we see the individual repeatedly recriminating with himself. He will tell anyone of his sinful acts, or in their absence tell himself. By so doing he is actually saying, "See what a sinner I am. I am sorry. I have repented. I am sick and can do no better. Please excuse and help me." In this way he seeks to gain sympathy and to avoid severe punishment for he is already punishing himself. One does not have to go far for everyday examples of this type of behavior. The little child may discover that it is to her advantage to run and tell mother that she has broken the vase rather than to let mother discover it herself. She demonstrates that she is a virtuous child through such action, and this virtue is rewarded by the mother who withholds punishment for the broken vase. The child has defended herself.

There are a great many "crutches" that an individual can use very conveniently to help him get along with his difficulties. Alcohol is one crutch. If

a person is greatly preoccupied with his business or family troubles, alcohol may give him a sense of freedom, a sense of relief. In seeking this relief he may drink a little more than he had intended. While under the influence of alcohol he may do things of which later he will be ashamed. He finds that this has only added fuel to the flame of his difficulty, becomes more ashamed and troubled, and again seeks relief through alcohol. A vicious cycle is established. This points out the futility of attacking "alcoholism" but rather points up the need for treating the person to find out what it is that alcohol does for him, what can be done to correct his manner of thinking or living, so that he will no longer need this crutch. In other words, the problem is to treat the injured leg, not the crutch. The use of many other drugs falls into this same category.

When the physician has a patient that he suspects of having functional difficulties and endeavors to elicit the story of the development of the illness, he must always have treatment in mind. Indeed, treatment begins at the first contact with the patient, during the actual process of examination. Honesty with the patient is essential during all phases of examination and treatment. All too often families and even physicians trick an individual into going into a hospital for the treatment of a mental illness. The patient is led to believe that he is going for a ride in the country or that he is only going to the hospital for a day or so. It is apparent that such a trick played on him by his *own family* or by his own physician can make it much more difficult for the doctor who is eventually to care for him to gain the confidence of the patient. This confidence is essential if he is to learn why the patient is acting as he is. The frequency of this trick also underlines the attitude of most people, many physicians included, that mental illness is a disgrace. The physician who has adopted a satisfactory "medical attitude", will have no tendency to "blame" the patient. He should go further and do everything in his power to help educate the families of such individuals and the people in the community so that they will not sacrifice the mental patient on the altar of family pride.

The sound treatment of mental patients can be divided into three steps: (1) There must be sound medical practice; that is, the physical as well as the emotional factors must be taken into account. (2) In order to understand these the physician must consider the *setting* in which the problem takes place and the *attitudes* which the patient has developed throughout his life. (3) The physician then seeks to change the patient's faulty attitudes. Fortunately, attitude changing is not an impossible task. If it were, there would be no salesmen or advertising men. The difference between the Fuller Brush man and the doctor is that the Fuller Brush man tries to change the housewife's attitude and make her "insecure" about the cobwebs in the corner of the ceiling, then sell her a "crutch" or brush to remove the cobwebs and hence the insecurity. The physician, on the other hand, deals with a person who is already insecure. It becomes his problem to restore the security of the individual and take the "crutch" away. The "crutch" may be alcohol, other drugs, or some "trick" that is fooling the patient even if it does not fool those about him.

NO NEED FOR "SPECIAL HANDLING."

In civilian life, a man who has a little difficulty in his domestic relationships can juggle things around until they are accommodated to his peculiarities. Perhaps he can have a bedroom by himself, or with somebody else, or something. At any rate, his particular likes and dislikes, quirks, and peculiarities can be given tougher consideration, and he is able to make the grade very nicely.

On the other hand, those of you who have been in the Army know that occasional difficulties arise as to the matter of a soldier, or even an officer, fitting the existing domestic relationship to his neurotic nicety. He may find it difficult, as many men do, to sleep in barracks, and to undress and appear in a September-morn state before his fellowmen.

It is clearly seen that the domestic relationship is easily adjustable in civilian life, as opposed to Army life, wherein it is frozen. However, should a man fail to make the adjustment in the Army, he would probably exhibit a neurotic reaction to that particular, and hence, be labeled psychoneurotic. The solution to the problem, and subsequently, the "cure," is obviously severance from the service. He does not need "special handling" from his friends and acquaintances. He does not need psychoanalytic procedure. He only needs to get back into the swing of his civilian existence.—C. Charles Burlingame, M. D., in Conn. St. Med. Journal.

PSYCHIC AND PHYSICAL DISTURBANCES

The important position which the sexual characteristics of a woman play in her life must make it almost a foregone conclusion that a close connection is present between the psychic and physical phases and that disturbances in either field can be handled more effectively if this fact is recognized and adequate attention given it by her attending physician. The importance of the "psyche" in woman has been admitted from early historic periods and the old conception of "nervousness" as the basis for many of woman's complaints has long held the middle of the stage. As a matter of fact, if this is assumed to be the only explanation, many real illnesses, especially in the genital sphere, may be overlooked. It is essential, therefore, to inquire deeply into all of her complaints even if they appear trivial but not to ascribe them to purely psychic disturbances until a pathologic basis can be ruled out. —N. Y. State J. Medicine.

IS PSYCHIATRY A MEDICAL LUXURY?

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I have just returned home from a state-wide tour of West Virginia in the company of Dr. Dale Cameron. It was our privilege to present some facts about psychiatry to mixed medical-lay groups, sponsored by the West Virginia State Medical Association. I cannot avoid certain reflections induced by this experience, concerning the goals of present-day medicine, and psychiatry's place in the total medical program. If these remarks seem critical, let me hasten to state that similar observations could be made in my own state of Maryland, in Illinois, or in California. The things noted are general—appallingly so.

Medicine traditionally has busied itself largely with four major drives: (1) saving life, (2) easing pain, (3) correcting deficiency, and (4) custodial care of the incurable.

The first three drives have registered spectacular advances, each in its time and way, and each has captured the popular fancy—witness the enthusiasm over the latest surgical venture, or chemotherapeutic agent, or hormone replacement therapy. People generally profit from these methods, obviously and to their personal gratification. Their purveyors find a ready field for their exploitation, and patient gratitude is part of their daily satisfaction.

These three fields cover the bulk of medical practice and so of medical practitioners, and on the whole the practitioners have been content with these goals.

Psychiatry has little part in these aspects of medicine. We relatively rarely are called on to save life, the main exception being in cases with suicidal risk—a matter about which medical practitioners generally have an astonishing fatalism.

We rarely are called on to ease pain, although experience has shown that in many instances our remedies may be much more potent than are those of the general practitioner. But only in sophisticated medical climates do we get opportunity to demonstrate our abilities. We don't deal very extensively with remedying deficiencies. Our excursions into such fields have brought meager results.

Considering all these facts, it is small wonder that physicians and laymen alike count us as something apart, out of the usual medical field.

The custodial care of the incurable has been accepted by society as an obligation, and this field uses the services of a certain few medical practitioners. By contrast, psychiatry for long years made its greatest bid for popular acceptance in this field. Traditional psychiatry contented itself with this problem, a problem of such dimensions—in actual numbers of victims, in the financial costs, in the purely administrative functions—as to stagger the imagination. And to make matters worse, it constantly becomes a more burdensome problem for reasons inherent in the human constitution with its frailties, and to a large extent because of the successes of general medicine in saving and prolonging life.

The men who do this work are the institutional psychiatrists, who in the very nature of the case live and work in a world outside the active world of the medical practitioner.

Over the years, however, man has sought something beyond just *continued living*, beyond *easement from pain*. He wants to *live fully*, to utilize opportunities to the utmost, to create new opportunities, to add to his stature, to understand himself and be all that he is capable of, and at the same time to understand others and be a part of that society to which others also adhere. In brief, man has not been content "to live by bread alone". This yearning has many expressions, and numerous disciplines have offered their contribution to its fulfillment: religion, sociology, economics, anthropology, psychologyy, education, philosophy, law, even politics.

Medicine has had to follow suit, for patients want advice on how to live *well*, and how to prevent mishaps. In such a manner have developed numerous medical specialties, for example, nutrition, pediatrics (in part), plastic surgery, orthodontia. In fact, general medicine has responded to the demand for ways of leading the better life. Every practitioner spends much time giving advice concerning what might be called a proper *hygiene* of living.

Despite this, there remains a certain tendency to glorify the first four goals above, as being the real *Science* of medicine, and to soft-pedal the last named as somehow inferior, and more related to the *art* of medicine—that vague term used to define the capacity of putting science to work in the most pleasant and effective manner. The most likely reason for this is that the victims in the last category are not very "sick". Many physicians and nurses are most unhappy working with people who are not very sick, in the traditional sense. The feeling of providing the deciding factors for recovery is a deep seated need in such medical personnel.

In dealing with personal problems physicians rely

heavily on their knowledge of themselves and of their common sense deductions from their practice, and as is the case with ministers, lawyers, educators, often enough give sound advice. There is a certain dependability to be expected from statistical fact, and from impressionism well grounded in experience.

It is with these patients that modern psychiatry, an extramural and actively practicing psychiatry, claims a special position. This claim rests on the demonstrable fact that health and happiness are to a large extent equivalent phrases, that health and happiness or their opposites are *historical* items, with antecedents of a sort not adequately appreciated or understood outside psychiatric circles, and with measurable projective tendencies into the future.

Speaking concretely, psychiatry has been able to specify more accurately the precursors to health and disease. These emerge as developmental, and experimental factors, largely of an emotional sort, having to do with deep seated drives, tendencies, attitudes, expressed "outwardly" as interpersonal relations and other observed activity, or "inwardly" in visceral functioning, in states of well being or their opposite, and in the functioning of the essential bodily rhythms.

There is a prodigious amount of human suffering from such obscure or vague complaints as insomnia, headache, tiredness, moodiness, sensitiveness, emotional frustrations, sexual incompatibilities and dissatisfactions, gastro-intestinal unrest, and anxiety states in general. For one case of headache from brain tumor, there are hundreds or thousands from experiential human misery. For one case of sexual frigidity from hormone lack there are thousands from personal (psychological) causes. The suffering, itself a subjective phenomenon, in the one case is in every way comparable with that in the other. Something better than general advice is deserved in such cases. And it is in precisely such cases that the psychiatric historical method offers material which is not only pertinent, it is absolutely essential to proper understanding, treatment, and the organization of a sound personal hygiene.

Yet in our tour of the state of West Virginia, we encountered exactly one psychiatrist who was living in the community and was in daily contact with his colleagues.

The blame for this deplorable condition must rest largely on the deficiencies in medical education, which still stresses life-saving and pain-killing. Fullness of living is badly neglected by general medicine, and academic psychiatry has too often surrounded it with such a thick fog of terminology and theoretical hocus-pocus as to discourage all but the few students who, largely for personal reasons, refuse to be daunted, and insist on finding out the facts. As a consequence the annual accession of new practitioners of psychiatry is indeed small, and these few tend quite naturally to settle in large medical centers where their influence may best be exerted.

But the whole blame does not rest there. A goodly share must rest with the medical practitioners in the smaller cities and towns, whose vision of what medicine can do is likewise limited to life-saving and pain-killing. Or if they sense that these goals are inadequate, they are apt to classify the further extension of medical goals in the direction of the fuller life as a variety of *luxury service*, which the public will not tolerate (i. e., pay for). I do not believe for an instant that this is a correct appraisal of the public temper. The money gladly and foolishly spent on vacations and rest cures alone, prescribed by physicians for all sorts of personal maladjustments, testifies to the public willingness to do anything to achieve the fuller life. As a matter of fact often enough psychiatric help will be found to be *saving* of the patient's resources, to say nothing of his bodily integrity.

My suspicion is that there is a disinterestedness manifested in the lack of proper psychiatric care which would never be tolerated in the case of a lack of surgical care, or of gynecological care. In the latter cases it is certain that the medical profession and the public behind them would reach out, find such talent, and bring it to the community.

When will they do this for psychiatry? Your community psychiatrist won't save lives, he won't kill pain, but he can establish an enviable position in the treatment of blocks to satisfying and effective living and in the counselling for a healthy hygiene.

As a practitioner in a medical center I, too often, have to face the unhappy fact that my patient who has come a long distance for examination and advice, yet needs continued care for some period, must return to a community at no accessible distance from any psychiatric facilities.

The larger communities could establish public mental hygiene clinics, or selected physicians could organize, informally or formally, a type of group practice, with a psychiatrist as a member of the team.

Assuming that the psychiatrist were as well trained as his colleagues, and were accepted wholeheartedly by his colleagues, he would soon be swamped with the demands for his services. He could function also as a child guidance specialist to the schools, the community social agencies, and the courts. Actually he would function as the traditional psychiatrist to arrange for the commitment of the psychotic patient

only rarely. His time and talents would be expended in services to people who want to live *better*.

The experiences of this war have shown the value of the psychiatrist as a builder of morale, which rests finally on mental hygiene. There is not the slightest doubt that he can serve such a function in the private practice of medicine and in the public economy generally.

The solution to this problem rests on the clear realization on the part of the medical practitioner that psychiatry is not a luxury service, but an essential service of which suffering humanity has too long been deprived. Medical education does not begin and end in the medical schools, but must be accepted as the responsibility of every practitioner of medicine.

The physician sensitized to this topic will find abundant enthusiasm among educators, lawyers, the clergy and social workers. In fact he will find more "conservatism" among his colleagues than in these other groups. The physician is in a position to offer leadership in this situation, because he operates from a position devoid of sectarian bias and with a sound tradition of interest in the welfare of people. On our trip we met some physicians, teachers, and lawyers so sensitized and eager for psychiatric developments in their communities. Everywhere we found interest. How to translate interest into concrete action is the problem. There is no stereotyped way to do the work. It is best if each community develops its own method. Even in a medical center such as Baltimore there are serious deficiencies in the available psychiatric facilities. We are working to correct these now.

"Where there is no vision, the people perish." In your state, with actual and potential material resources in such abundance, it becomes an obligation of enlightened citizens generally and of physicians specifically to see that the people do not perish from a want of vision.

PSYCHIATRY IN POSTWAR ERA

Colleges and schools have given little attention to mental hygiene. Physical examination of school children has been compulsory at stated intervals, but mental examinations have been ignored. Parents, not knowing the laws of mental health, have ignored or excused the defects of their children or have punished them, thus increasing the problem and developing grounds for future mental disease. Local, county, state, and federal government have paid little attention to psychiatry, considering the problem as one of domiciliary maintenance. Doubtless the families of disabled veterans will demand more adequate care, which may result in a revolution of psychiatric medicine. Thus psychiatry will be forced to assume its proper position among the other specialists.—M. A. Tarumianz, M. D., in Pa. Med. J.

THE "PSYCHONEUROSIS FAD"

A "psychoneurosis fad" based on a mistaken belief that every returning veteran is maladjusted and in need of special training is "causing returning servicemen some bewilderment and rapidly assuming ridiculous proportions in the United States," according to a recent editorial in the United States Army newspaper, Stars and Stripes.

"Honest psychiatry is an established profession," says the G. I. editor. "Its services are badly needed by many fine men who are are coming out of the war with mental illness, but," he continues, "every screwball with thick lenses and a long haircut is setting up shop as an expert on the returning veteran."

Emphatic support for this viewpoint comes from Mr. Frank H. Bowles, Director of Admissions at Columbia University, who declared in a report to Dr. Nicholas Murray Butler, retiring President of the University, that the belief that the American fighting men will return from war with warped values and a neurotic personality is "pretentious poppycock." Speculative attempts to evaluate the state of mind of the G.I. were described as "remote control psychoanalysis."

Likewise, Lt. William Best, Jr., in an article in the Saturday Evening Post for April 14, 1945, under the title, "They Won't All Be Psychoneurotics," suggests that if the soldiers are paying any attention to what they read in the newspapers they must have a terrific inferiority complex, imaging themselves as "tamed dogs gone wild who must pause on the road back to normalcy in order to be rehabilitated." On the contrary, Lieutenant Best says that "most of the soldiers felt far older and wiser from their experiences" in war, and in fact, "most of them felt it would take a lot to floor them." He reports that "the doctor in charge of one of our largest hospital ships told me that half of the patients classified as psychoneurotic showed amazing improvement the minute it was obvious that their ship was headed for the United States with no danger of turning back. Overseas many a boy who suffers from acute homesickness is a psychoneurotic. In civilian life he is merely homesick.—N. Y. Medicine.

WHERE FEAR IS NATURAL

An obstetrician must be aware of all the anxieties that may upset his patient and must encourage the patient to talk about them. He should truthfully explain the facts of pregnancy and delivery. It is, as a rule, unwise to show pictures which illustrate the process of child birth as this is often too realistic and will horrify rather than relieve the anxieties. It is not advisable to tell patients that they had a difficult labor or a hard delivery. This may cause the convalescent period to be prolonged and be responsible for a state of passive dependency that persists longer than is normal. The doctor too often deals with the problem by a pat on the back and a cheery word that everything will be all right. This does not allay fear. The patient must be taught to live with it. She can be convinced that this fear underlies her nervousness, sleeplessness, etc. She must be encouraged to discuss her fears. If she is told that fear is a natural accompaniment of pregnancy, she will have a minimum of symptoms.—Frances Holmes, M. D., in Cal. and West. Med.

THE PATIENT AND FEAR

The prospect of summoning a doctor, for himself or for one of his family, frightens almost every layman. This may be, and doubtless is absurd; but the fear is deeply rooted in the past, and the physician himself is its father. The old witch doctors who catered to savage tribes used masks, incantations and every imaginable sort of humbug to frighten their prospective patients. To observe their antics was to conclude that they believed a patient thoroughly frightened was already half cured. It is too often true today that doctors appear to proceed on the same theory. Their actions suggest that they believe a good fright beats all the drugs in the pharmacopoeia.

Doctors do not sufficiently realize the fact that their patients are frightened, and do not give enough attention to the particular branch of pathology that involves a study of the emotions. I know that you have courses in what is called "psychosomatic medicine,"—the phrase alone, like most medical phrases, is enough to frighten the average patient,—yet I suspect that it is a doctor, not a patient, who gives those courses; and this may reduce their usefulness.

There are so many of these fears. The patient is afraid of what the doctor will tell him, and as a result he often puts off seeing a doctor at all till it is too late to help him. Basically this is not fear of what the doctor may discover, but fear of the mysterious and terrible and godlike creature himself. Your patients will be afraid of you. Of course if you are young and handsome and your patients are neurotic women, this fear may be replaced by another emotion; but the normal person, finding it necessary to see a doctor, is frightened. I believe that some study has been made of the body's chemical reaction to emotions. Those of you who incline to a life of research might go far in that field. If, for instance, ulcers of the stomach are caused by an excess of hydrochloric acid in the digestive fluid, what emotions produce that excess? If you always remember that a patient who comes to you for diagnosis is afraid, what allowance must you make, in appraising his symptoms, for the chemical effect on him of that fear? What steps can you take to allay it, not only his fears, but those of the well people who love him?

For of course the wise doctor will always remember that it may be quite as easy to make a well person sick as to make a sick person well. The recital of symptoms may produce them—in the well or in the sick.—Ben Ames Williams in New England Med. J.

SHOULD DOCTORS TELL?

To the doctor's most persistent psychiatric problem—How much of the truth shall you tell the patient?—there is no complete answer. Yet the better you know your patient, the more wisely you can solve this problem. How much of the truth will you tell a patient with a hopeless case? To be sure, you may be wrong in your diagnosis; but in what seems to you a hopeless case, will you be frank with the patient? Will you tell his family? One doctor of wide experiences recently assured me that he never tells the hopeless truth.

I have known two people who were killed—their deaths hastened—by being told the truth. One, an old man who had been a granite cutter in his youth, had, through a long life, been proud of the fact that he had never contracted tuberculosis. In his middle seventies he fell ill. I was with him—he was jolly, mentally himself, physically strong enough to walk and talk—when a rural doctor whom he had consulted came into the room and said flatly, "Mr. McC., you have tuberculosis." He never spoke another rational word, and died ten days later. Another, a woman, developed a progressive and incurable ailment, but her life expectancy was ten, twenty or thirty years. Told that she would never get better, she died in three months.

On the other hand, I have known men who were told that their days were numbered—and who lived full and happy lives for many a year thereafter. I think of one man who was given—on condition that he mended his outrageously dissipated ways—a maximum of six months. He decided that virtue was not worth the price, and has continued his excesses through the sixteen years that have ensued since the day sentence was pronounced on him. To decide who shall be told the hopeless truth is a problem impossible of positive solution; but he who oftenest solves it correctly is the best doctor.—Ben Ames Williams in New England Med. J.

SOMATIC NEUROSES

There are many theories as to the cause of stomach ulcer but I do not believe anyone can deny the psychogenic factors concerned in its beginning. It is well known that ulcer occurs in the individual who lives under mental stress and strain and who gets little physical exercise. Doctors and lawyers are notorious subjects. Under such stress the vegetative nervous system, which is somewhat under the control of the mind, begins to play tricks with the function of the stomach; gastric motility is increased, the acid cells are stimulated and there is increased secretion of hydrochloric acid. At this stage the situation may be reversible and sometimes can be brought about by so simple a change as a short vacation.—Frank H. Redwood in Virginia Medical Monthly.

NEED FOR 10,000 NEW PSYCHIATRISTS

The experience of many doctors in the service with the treatment of the "combat fatigue" disorder has shown them the real potentialities of modern psychiatric treatment. Some of these men have indicated their desire for psychiatric training while in the service. Others are already asking about opportunities in psychiatry after the war. This is a hopeful development, for it is a real tragedy that out of our total medical population of 165,000 doctors, a scant 3,500 devote themselves to psychiatric practice. The result has been a serious dearth of psychiatrists to meet the emergency of army needs.

It has been estimated that 10,000 new psychiatrists and the same number of psychiatric social workers are needed to provide minimally adequate psychiatric service in peace time in this country. This dearth of psychiatric personnel is not easy to understand because psychiatry offers those doctors who are genuinely interested in human beings a particularly rich and rewarding way of life.—Thos. A. C. Rennie, M. D., in Mental Hygiene.

The President's Page

The West Virginia State Medical Association is closing another year, during which much has been accomplished. Legislation taking our state institutions out of politics has proved to be one of the greatest advancements in medicine in West Virginia in years. This change is not so evident, as yet, due to the inability of the public health council to secure trained psychiatrists for the several mental institutions. This is no fault of the council, but due to the scarcity of trained psychiatrists occasioned by the war. As medical officers are released from the service these appointments can be made.

The Committee on Relocation and Reestablishment of Medical Veterans is doing an outstanding job. The doctors of West Virginia are demonstrating their willingness to create a shareable life with their medical brothers by helping them secure offices, reestablishing their appointments in hospitals and in industries, and by publicity in their local papers advising their patients of their release from military service and urging them to return to their former physician.

The doctor group, members of the advisory committee to the Legislative Interim Committee on Public Health, has had many difficult problems to solve, but under the able guidance of Bob Wilkinson this committee will make many valuable suggestions to the main committee, all for the betterment of medicine in West Virginia.

This is the swan song of the writer as President of West Virginia State Medical Association. It has been one of the greatest honors that could possibly be accorded any member of the Association.

It is a privilege and a pleasure to transfer the mantle of office to one most worthy and capable, Andy Amick, your friend and my friend.

Thomas R. Harris

President.

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A HAPPY CHRISTMAS

For many West Virginia doctors, this Christmas will be one of the happiest events of a lifetime. These doctors have come back home after months and even years of service with our armed forces in this country and in every part of the world. For some, practice means what it did when they left home. For others, it means the thrill of opening an office for the first time. Still others will avail themselves of the opportunity to take postgraduate work looking toward the practice of a specialty. For all, Christmas means home and friends and the enjoyment of community civilian life.

Our doctors who remain temporarily in the service may now look forward to a return home in the near future. After months of anticipation, their hopes and desires are about to be fulfilled. For them, we express the sincere wish that they may soon be permitted to start the journey back home.

The doctors who have remained in civilian practice are also happy. The return of their confreres from the wars means that some of the burdens they have carried will now be lifted. More doctors means better medical service, which in itself means better health for all of our people.

So, to our doctors in West Virginia, in the United States, and in the world-at-large, we say Merry Christmas, and much joy and happiness throughout 1946 and all the years to come.

OPPORTUNITY KNOCKS

Seldom indeed is a committee afforded opportunity for public service such as now presents itself to the State Medical Association's Psychiatric Committee. Appointed to afford us opportunity to qualify ourselves to give needed psychiatric aid to returning veterans, it has worked long and faithfully.

The leading articles in this number of the Journal indicate the scope of the material it has been bringing to us at the various meetings throughout the state. As anounced by its able chairman, Oscar Bierne, the first effort of the committee is to make us psychiatric minded. Certainly the attendance and attention at its meetings must convince any doubting person that the committee is fulfilling a professional and public need. However, since it now appears likely that the veterans will not need much psychiatric assistance from us, and where there is such a need it is being met and satisfied by others earlier and more adequately than would be the case with us, it is quite probable that the committee's main objective will not be attained. In this respect it is like Columbus who failed in his effort to reach India but discovered America instead—the committee's "America" being to make us psychiatric minded.

We can look upon our ability to deal with diseases of demonstrable pathological basis with a certain degree of justifiable pride. The situation is quite different when we have to do with those conditions arising within the spheres of the emotions and the mind. In a general way we are more or less familiar with the teachings of Freud, Cannon and their successors. However, most of this has developed since many of us finished medical school and changes in basic concept have been as frequent in this as in other branches of medicine. As a result we have been left with much vague and poorly organized work.

In the meantime we have noted with increasing dissatisfaction "chronics" going from office to office only too often to wind up with the cultists, and, it must be regretfully admitted, too often to our relief and their gain in well being. We are becoming uneasy at the tremendous number of pelvic operations on young women. We listen with silent condemnation when we hear of the great number of patients to whom this or that doctor is giving "shots" for impotence, frigidity, nerves or what-not. The picture is all too familiar and need not be described further. Certainly we face in this group one of the big factors in the increased cost of medical care. In spite of our dissatisfaction, up to the present time we have been unable to do anything to help the situation.

Here is an opportunity for the Psychiatric Committee. Let its work continue until all interested

physicians shall have had the opportunity to become sufficiently trained to make at least elementary psychiatric care available in all parts of the state. Such is the fascination of this work it needs no prophet to see that many men will take it up as a specialty. The need is great, the rewards are good. Thereafter the implications stagger the imagination.

The experiment in this state is being watched by the medical profession of the entire country. If success follows, so will imitation. Obviously, neither the medical profession as a whole nor any considerable part of it can become psychiatric minded without teaching the public. Stated otherwise, once the medical profession becomes psychiatric minded the public will lose its emotional immaturity. The resulting decrease in morbidity is, of course, beyond estimation. Apart from the practice of medicine, there are not lacking thoughtful men who assert that there is enough intelligence in the world to get us out of the mess we are in if intelligence could operate free of the shackles of emotional immaturity. They add also that if the world is to survive this liberation must occur, and soon.

The start must happen somewhere. If we have the vision, it has started in West Virginia.

RURAL MEDICAL SERVICE

One of the most sensible discussions of rural medical problems we have ever heard was the chairman's address before the Section on General Practice of the Southern Medical Association in Cincinnati. Dr. B. A. Hopkins, himself a general practitioner in a small county seat town in the Southern Appalachian Area, presented an analysis of his own work. Patrick County, Virginia, in which the author resides, according to the 1940 Census, had a population of 16,613, and the county seat, Stuart, was credited with 700 inhabitants. Probably the war dislocation of population has not materially disturbed these figures, and, at any rate, such a community is representative of the average of rural America. Five physicians serve the county, three of whom reside at the county seat.

The standard of judgment adopted by Dr. Hopkins, namely, whether these people were able to return to their daily vocations in as good physical condition as they were before development of the symptoms for which they sought medical advice, or in even better condition, is, we feel, a satisfactory one. The number of cases reviewed, 2,439, is large enough to afford a reasonable cross section of rural medical work. Of the total number, 2,334 were returned to their usual callings in at least as good physical condition as they were before development of the ailment which caused them to seek treatment, a percentage of 95.7. And that's a good batting average even in a major league! Sixty-two patients, or 2.54 per cent, were referred to specialists or medical centers for diagnosis and/or treatment. Of the 62 referred, 37 followed advice and were cured; 13 followed advice but their diseases continued to progress, resulting in death; 6 declined to follow advice; and 6 neither improved nor became worse. Of the 41 cases not improved and not referred, 34 died, and in 7 instances the disease condition remained stationary.

It has been customary heretofore to estimate the percentage of patients who can be cared for satisfactorily by the general practitioner at about 85, but Hopkin's experience would indicate that our previous estimates have been on the conservative side. We would not decry referral, of course, when it is necessary, but we certainly agree with Hopkins' experience that the average rural physician is doing a good job. Our congratulations to him!

THE COUNTRY DOCTOR

Many have fallen into the habit of considering the public health only from the standpoint of the city dweller. It is just as important that the facilities for medical services and health promotion be made available for the rural population.

A country doctor said recently that he was interested only in practicing his profession and not at all in making money. He was a physician of rare attainments and wide experience and could have succeeded admirably in any large city. But he chose the hardships and inconveniences of rural practice because he felt that in that way he could best serve humanity.

This is no isolated case but is typical. All over the country there are doctors, able, learned, efficient, who live lives of sacrifice so that they can relieve the ills of neighbors over an area of many miles. They carry a stock of medicines and instruments with them and sometimes perform emergency operations under the most adverse conditions. They save countless lives and sometimes sacrifice their own.

These all too few facts are set forth here for a purpose. That purpose is to stress the importance of greatly improving medical service in the rural districts. The responsibility for that lies directly with the county and state governments.

The setting up of medical centers, improvement of winter roads and installation of telephone service is the answer. This could be accomplished if the

country doctors would organize and bear down on the problem aggressively.

A West Virginia country doctor received a telephone call in the night and was able to diagnose the case at least tentatively as acute appendicitis. Fortunately there was a clinic within 15 miles. He directed that the patient be brought to it and was there himself in time to arrange for the anesthetic and nursing aid. The operation was performed and the patient's life saved.

While the patient was recovering the doctor sensed that he was worrying. Being pressed for a reason the man said, "I am worrying about your fee. I am a poor man, as you know, but I have several cows that I can sell if you can wait until prices are better." The doctor didn't hesitate. "Forget about it," he said. "When you get well just bring me two or three pounds of that good sausage you make." The nurse, not to be outdone, spoke up and said, "All I want for my part is a jar of that blackberry jam your wife puts up."

Every rural section in West Virginia ought to have a medical center conveniently situated. It need not be expensively equipped at first, but its equipment could be extended from time to time as funds became available. One we heard of has a consultation room, a small operating room and three beds. There are ample facilities for caring for emergency or less critical cases. When necessary more desperate cases are sent on by ambulance to a city hospital.

This medical center, in a small country town, was set up and operated at the expense of a country doctor. Young folks are inoculated for diseases of childhood, and periodical medical examinations are made for the grown folks as part of the service. Soon the country folks became so thoroughly sold on the project that they raised money in various ways and the center is now completely subsidized with local funds.

What can be done in one community can be done in all. We suggest that the county and state health departments take the matter up and enlist the help of the country doctors. We are sure they will respond gladly.

In many rural localities the public health is by no means as good as that of the cities, even the slum districts. Living much in the outer air, getting plenty of exercise and eating the best of food the country dweller's health ought to be better. But because of inaccessibility it is often much worse.

The best loved man in any country district is the doctor. That is because of his life of devotion to the people. And if for no other reason than the sacrifices he makes, he ought to have everything he needs to further the public health. We know of nothing he needs more than a medical center.—The Charleston Gazette.

A GRIEVOUS ERROR

We have previously commented upon what we believe to have been the major blunder made by official Washington in dealing with medical officers in World War II—the assignment of a considerable number of medical officers of the armed services to the veterans' hospitals. We realize that these assignments were made by personal directive of the then Commander-in-Chief, and we are fully aware of the dire need of the Veterans Administration for physicians. We believe also that the Commander-in-Chief had the *legal* right to make such assignments although we have heard that viewpoint disputed. However, we question seriously the *moral* right of a Commander-in-Chief to assign men recruited for service with the armed forces, most of them volunteers, to perform a civilian function, without the consent of the individuals so assigned. Moreover, the effect of such inexcusable assignments upon the morale of the Medical Corps cannot help but tend to deterioration. In this connection a "Current Comment" in a recent issue of the Journal of The American Medical Association is so apropos that we quote it in full:

"Apparently President Franklin Delano Roosevelt, toward the end of 1944, sent a directive to the Army and Navy medical departments which compelled them to assign a certain number of their officers to the Veterans Administration for use in veterans' hospitals. The number of physicians now so employed approximates 1,700 medical officers out of a total of 2,300 physicians in the Veterans Administration. Day after day letters are being received from these men complaining bitterly of their inability to obtain their release from this service either on the basis of a point system or by any other technic. Apparently the Veterans Administration requires at least 3,600 physicians to carry on its present activities, and it has only 2,300, of whom only 600 are men regularly in the Veterans service. Inquiries made directly to the Army and Navy medical departments do not indicate that the officers there on duty have any solution for the problem. They urge that release of the medical officers from the Veterans Administration would make it necessary to retain the wounded in army and navy hospitals instead of releasing them to the Veterans Administration and that it would then be necessary

to retain in the armed forces many medical officers who under present circumstances can be released. The letters from the physicians who have been assigned to the Veterans Administration complain bitterly that they have not been assigned in most instances to care for the sick but that the majority of the work given them is the keeping of records, with routine examinations for the determination of the extent of disabilities. Retention in this type of medical service of physicians who volunteered their services to the nation in time of war, with the understanding that they would be actively engaged in military medical service, is contrary to common justice and apparently a violation of the mutual obligation that developed on enlistment of the officer in a branch of the military service.

"The resentment and bitterness felt by these men against their government and against the officers of the armed forces who assigned them to these positions would seem to be well warranted. There has been disregard of their rights. True, the Congress has not yet declared the emergency at an end and these officers are still bound by their oath on being commissioned in either the Army or Navy medical departments. Nevertheless they feel that they are being held through a subterfuge in a service for which they did not enlist and in which they could not now be retained except by a tacit disregard of their rights".

Why cannot this injustice be corrected? Why is there not some one in official Washington who has power at least to reassign these officers to the armed services from which they were derived in order that they may be, in their due turn, discharged to civilian life? The Veterans Administration should stand upon its own feet and furnish its own physicians.

HEREDITY AND HYPERTENSION

Once we thought that hypertension was associated with a certain bodily habitus—that it was more prone to exist among the short and the squat and the red-faced. Those of you who have occasion to see patients suffering from this disturbance have found them to be lean and spare, tall and pale-faced as well. According to Page, "an accurate correlation of body build, height and surface area with arterial pressure cannot be established." Again citing Page as my authority, and contrary to generally accepted beliefs, there is no sufficiently documented testimony to support the view that heredity plays a vital part in the genesis of hypertension. He cautions against ascribing too great importance to heredity plays a vital part in the genesis of hypertension. He cautions against ascribing too great importance to heredity and suggests that this aspect of the problem needs reinvestigation on a more comprehensive basis.—Carl Binger in Bull. N. Y. Acad. Med.

General News

GOVERNOR APPOINTS DRS. LANGFITT, POINT AND BRANDABUR MEMBERS PHC

Drs. Frank V. Langfitt, of Clarksburg, Walter Warrent Point, of Charleston, and John Joseph Brandabur, of Huntington, have been appointed by Governor Clarence W. Meadows as members of the Public Health Council for terms ending June 30, 1949. The new appointees, who take office immediately, succeed Drs. M. T. Morrison, of Sutton, Benjamin H. Swint, of Charleston, and Wm. C. D. McCuskey, of Wheeling, who have served for several years as members of the Council.

Doctor Langfitt is a past president of the West Virginia State Medical Association. He has been active in the affairs of his profession and has served as chairman of several important Association committees. He is also a past president and secretary of the Harrison County Medical Society and has always been active in the business and civic affairs of his community.

Doctor Point has practiced his specialty of obstetrics and gynecology in Charleston since 1914. He is a past president and secretary of Kanawha Medical Society.

Doctor Brandabur has been engaged in industrial practice for a number of years and is now assistant supervising surgeon of the C. & O. Railway Company at Huntington.

NEW SUPERINTENDENT AT WESTON

Dr. Orin R. Yost, of Aiken, South Carolina, has been named by Governor Clarence W. Meadows as superintendent of Weston State Hospital to succeed Dr. Harry A. Garrison, who resigned as superintendent several months ago. Dr. H. O. Van Tromp has been serving as acting superintendent since June 1, 1945.

Doctor Yost is a native West Virginian, having been born at Kimball. He is a graduate of the Medical College of Virginia and has been connected with the Pilgrim State Hospital in New York, the Veterans Hospital at Chillicothe, Ohio, and the Hartford Retreat at Hartford, Connecticut.

After serving four years in the Army medical corps, he engaged in private pactice at Aiken and at the present time is operating a hospital for the treatment of mental and nervous diseases.

Doctor Yost will assume his new duties at Weston December 1.

HOSPITAL FIELD REPRESENTATIVE

Mrs. George Fordham, hospital superintendent and director of nurses at Laird Memorial Hospital at Montgomery, has been appointed by Dr. J. E. Offner, State Health Commissioner, as hospital field representative for the Division of Maternal and Child Health. The new office was created to provide nursing supervision to hospitals accepting patients under the EMIC program.

REPRESENTATIVE NEELY INTRODUCES CANCER RESEARCH BILL IN CONGRESS

A bill has been introduced in the House of Representatives by Congressman M. M. Neely, of the first district, authorizing and requesting the President to utilize the services of the world's outstanding experts to find a means of preventing and curing cancer. The full text of the bill is as follows:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the President is hereby authorized and requested to undertake, in whatever manner he may deem most appropriate, to mobilize at some convenient place in the United States an adequate number of the world's outstanding experts, and coordinate and utilize their services in a supreme endeavor to discover means of curing and preventing cancer; and to take any additional action that he may consider necessary or proper to achieve the desired result.

"Sec. 2. The sum of $100,000,000 is hereby authorized to be appropriated to enable the President to carry out the provisions of this Act."

Congressman Neely, United States Senator from West Virginia for many years, served as Governor from 1941-1944. It was during his tenure of office that a bill was passed by the legislature setting up a division of cancer control in the state health department. This division has been functioning for over two years.

Congressman Neely has always been interested in cancer control and, during his service in the United States Senate, was highly instrumental in the establishment of the National Cancer Institute.

NEW PATHOLOGICAL ASSOCIATION

A new Pathological Association has been organized in West Virginia under the name of "Association of Pathologists of West Virginia." Charter members are: Dr. Eugene DeAngelis, Morgantown; Dr. C. C. Fenton, Morgantown; Dr. S. Werthammer, Huntington; Capt. Morris H. Levine, MC, AUS, Veterans Administration Facility, Huntington; Dr. W. S. Dick, Parkersburg; Dr. Milford L. Hobbs, Fairmont; Dr. Fritz Levy, Elkins; Dr. W. T. McClure, Wheeling; Dr. W. J. G. Putschar, Jr., Charleston; and Dr. M. W. Sinclair, Bluefield.

At the organization meeting, which was held at Morgantown, October 26-27, Dr. Clement C. Fenton head of the Department of Pathology at the School of Medicine of West Virginia University, was elected president, and Dr. W. T. McClure, of Wheeling, secretary-treasurer.

The following scientific program was presented at the first meeting: "Problem of Technicians", Dr. C. C. Fenton: "Newly Formed West Virginia University School of Medical Technicians", Drs. E. J. Van Liere, and G. S. Dodds; "The Use of Plastics to Replace Cover Glasses in Microscope Slide Preparations", Dr. Eugene De Angelis; and, "Rocky Mountain Spotted Fever", Dr. W. J. G. Putschar, Jr.

The session was brought to a close with a seminar on silicosis at which the clinical, pathological, and roentgenological aspects of the disease were fully discussed.

DPA TO PROVIDE TREATMENT AND CARE FOR INCURABLE CANCER CASES

In a recent release from the department of public assistance, addressed to district administrators, county council chairmen, and case supervisors and visitors, Robert F. Roth, the director, stated that the DPA will be responsible for payment for care of any cases of cancer referred by it to any hospital or placed under the care of a doctor up to the point at which responsibility for such care and treatment is assumed by the division of cancer control of the state health department.

When information is received from the division of cancer control that a case is incurable, the DPA will assume the cost of necessary palliative treatment or other necessary care if the patient meets the eligibility requirements of the department.

In all cases, the assumption of responsibility for care of incurable cases by the DPA will depend upon the economic eligibility of the individual as measured by DPA standards. The determination of such incurability will be made by the division of cancer control.

The new regulations, which are effective immediately, have been agreed upon by Mr. Roth and Dr. Paul R. Gerhardt, director of the division of cancer control.

FILM LENDING LIBRARY

The Bureau of Health Education of the West Virginia State Department of Health, has just completed a review and evaluation of its film library consisting of almost 100 health films. The film-loan library has been steadily growing from year to year, and is a service that is made available to health officials, physicians, dentists, teachers, health groups, civic organizations, or any persons interested in promoting community health.

Films may be borrowed free of charge, the return postage being paid by the person requesting the film. The subject matter includes a wide range within the health field, one entire category being concerned with obstetrics and DeLee's techniques of delivery. A complete descriptive catalogue will be sent upon request.

DR. DYER AT UNIVERSITY OF MICHIGAN

Dr. N. H. Dyer, of Bartley, is taking special work in the Department of Public Health at the University of Michigan, and will receive his master's degree in public health in June, 1946. Dr. C. F. Jackson, formerly of Bradshaw, is in charge of Doctor Dyer's industrial practice during his absence from home.

Doctor Dyer reports that over one hundred doctors are enrolled at the University of Michigan in the courses provided for those seeking a master's degree in public health.

PHC MEETS IN JANUARY

The regular winter meeting of the Public Health Council will be held at the Daniel Boone Hotel in Charleston, January 7-9, 1946, for the purpose of examining applicants for licensure in this state.

WEST VIRGINIA DOCTORS ON PROGRAM AT CINCINNATI MEETING OF THE SMA

Over a hundred West Virginia doctors attended the four-day meeting of the Southern Medical Association, November 12-15, at the Netherland-Plaza Hotel in Cincinnati. More undoubtedly would have been present had hotel accommodations been available. There was a complete sell-out at all the leading hotels in the city and many doctors were compelled to seek rooms in private homes.

Several West Virginia doctors appeared on the program and otherwise took an active part in the meeting. At the meeting of the section on surgery, Dr. Russell B. Bailey and Dr. C. D. Hershey, of Wheeling, presented a paper on "Vein Ligation in Thrombophlebitis," and Col. Dan C. Elkin, MC, chief of surgical service at Ashford General Hospital, spoke on "The Operative Treatment of Aneurysms and Arteriovenous Fistulas." The program for this section was arranged by the secretary, Dr. R. J. Wilkinson, of Huntington.

In the section on orthopedic and traumatic surgery, Dr. Harold H. Kuhn, of Charleston, with Capt. Robert G. Neill, MC, of Durham, North Carolina, presented a paper on the "Results of Removal of Ruptured Interverterbral Disc and Combined Disc-Fusion Operations."

In the section on obstetrics, Dr. A. P. Hudgins, of Charleston, discussed Dr. Karl John Karnaky's paper on "Hydrogen Ion Concentration in Monilia Albicans Infection and Treatments."

Dr. Chesterfield J. Holley, of Wheeling, presented a paper on "History of Hemorrhoidal Surgery" in the section on proctology.

Col. Robert P. Kelly, MC, chief of orthopedic service at Ashford General Hospital, spoke on "Rehabilitation of the Injured Arm and Forearm," before the section on industrial medicine and surgery. The program for this section was prepared by Dr. J. J. Brandabur, of Huntington, secretary.

Dr. A. L. Chapman, of the State Health Department, Charleston, addressed the American Public Health Association on "The West Virginia Plan." The paper was discussed by Col. W. K. Sharp, Jr., MC, of Richmond, medical director for District 2, USPHS.

At the session of the American College of Chest Physicians, Dr. Walter E. Vest, of Huntington, discussed Dr. Andrew L. Banyai's paper on "Fifteen Years' Experience with Carbon Dioxide in the Management of Cough."

Dr. A. P. Hudgins, of Charleston, presented a scientific exhibit on "New Cannula for Hysterosalpingography," and Dr. Russell B. Bailey and Dr. Charles D. Hershey, of Wheeling, presented an exhibit on "Thormbophlebitis."

Dr. Walter E. Vest of Huntington, is chairman of the board of trustees of the Southern Medical Association, and Dr. Ray M. Bobbitt also of that city, is a member of the Council.

The following West Virginia doctors were registered at the meeting on Monday, Tuesday and Wednesday, November 12-13-14:

Amick, Andrew E., Charleston; Arnett, Jerome C., Rowlesburg; Bailey, Russell B., Wheeling; Barker, John Francis, Huntington; Beckner, William F., Huntington; Benson, Don S., Moundsville; Bloss, J. R. Huntington; Bobbitt, R. M., Huntington; Bond, R. C., Wheeling; Boland, L. F. Williamson; Boggs, E. C., Charleston; Bracey, Altamount, Welch; Brammer, Fred E., Huntington; Brandabur, John J., Huntington; Brown, James R., Huntington; Buff, Isidore E., Charleston; Buford, Robert K., Charleston.

Cannady, John E., Charleston; Chandler, Carl F., Bridgeport; Chapman, A. L., Charleston; Clovis, E. E., Wheeling; Coffindaffer, R. Smith, Shinnston; Cox, Lloyd E., Charleston; Crews, Howard R., Huntington; Cronin, Denis, Jos., Huntington; Elkin, Col. Dan C., Ashford General Hospital; Fisher, Hokie H., Dunbar; Fortney, F. D., Newburg; Gallagher, Mary Virginia, Charleston; Genge, Cole D., Huntington; Greeneltch, Delmas E., Wheeling; Grimm, W. O., Huntington; Guthrie, J. A., Huntington.

Haynes, Herbert H., Clarksburg; Heffner, George P., Charleston; Helmick, John P., Fairmont; Henson, E. Bennette, Charleston; Hereford, Wm. Delafield, Huntington; Hershey, Charles D., Wheeling; Hickson, Edward Watts, Fairmont; Hodges, Frank C., Huntington; Hoffman Charles A., Huntington; Hoffman, W. E. Charleston; Hoitash, Frederick J., Huntington; Hoke, Leonard I., Nitro; Holey, Chesterfield J., Wheeling; Howell, Harold H., Madison; Hudgins, Archibald P., Charleston; Hume, John C., Charleston.

Jaskiewicz, Casimir F., Huntington; Jeffers, George D., Parkersburg; Jones, Paul A., Huntington; Kelly, Robert P., Ashford General Hospital; Kuhn, Harold H., Charleston; Lance, Verne L., Charleston; Lawson, Aubrey F., Weston; Lyons, Jos. W., Holden; Mackey, William K., Huntington; Mason, Lester M., Seth; Menachof, Stanford, Huntington; Miller, Roy Ben, Parkersburg; Moore, M. B., Huntington; Moore, T. W., Huntington; Morgan, Grady Veer, Fairmont; Myers, Hu Crim, Philippi; Myers, Karl J., Philippi.

McClanahan, Rose H., Charleston; McClure, Ulysses G., Charleston; Neal, Leonard E., Clarksburg; Offner, J. E., Charleston; Oliver, Ward L., Morgantown; Parker, Welington H., Braeholm; Pickar, Maj. Daniel N., Wheeling; Post, Cecil Omar, Clarksburg; Reaser, Edward F., Huntington; Salkin, David, Hopemont; Sammons, W. P., Wheeling; Scott, Charles M., Bluefield; Smith, Grover A., Montgomery; Stemple, Margaret, Morgantown; Stevens, Richard J., Huntington; Stevens, Sarah Louise Cockrell, Huntington.

Thomas, H. V., Clarksburg; Thompson, James, Morgantown; Trach, John M., Fairmont; Tucker, Eldon B., Morgantown; Van Liere, Edward J., Morgantown; Van Metre, R. Stuart, Huntington; Vest, Walter E., Huntington; Vest, Walter E., Jr., Huntington; Viehman, Arthur John, Huntington; Webb Joseph P., Huntington; White, Robert S., West Union; Wilkinson, R. J., Huntington; Wilkinson, Walter R., Huntington; Witten, Raleigh J., Huntington; Wright, Chauncey B., Huntington.

DOCTORS COMING BACK HOME

West Virginia doctors are coming back home to practice if the first returns from a questionnaire mailed by the State Medical Association's committee on relocation and reestablishment of returning medical veterans may be considered a barometer.

A breakdown of the first 60 replies received shows that fifty-five doctors still in the Army or Navy expect to return to the same community in which they formerly practiced. Three will move to some other location in the state, and but two will seek locations in other states.

Approximately half of the doctors replying to the questionnaire stated that they expect to take refresher courses or post-graduate work before resuming civilian practice.

PERMANENT HOME COMMITTEE

Dr. Thomas L. Harris, president of the State Medical Association, has named a committee to confer with a similar group from Kanawha Medical Society on plans for the construction of a permanent home for the Association. The committee is composed of Dr. William R. Laird, Montgomery, chairman; and Drs. A. U. Tieche, Beckley; T. W. Moore, Huntington; R. O. Rogers, Bluefield; John E. Cannaday, Charleston; Frank V. Langfitt, Clarksburg; and D. A. MacGregor, Wheeling.

Doctor Harris has also named the members of a committee on Rural Medical Service to work with committees of the American Farm Bureau Federation and other farm organizations planning rural health improvement. Dr. E. H. Hunter, of Webster Springs, was named chairman of the committee, and the other members are Drs. I. F. Hartman, Buckhannon; O. V. Brooks, Moorefield; J. J. Jenkins, Jr., Farmington; and W. E. Myles, White Sulphur Springs.

Appointment of the two committees was authorized by the Council at the fall meeting held at Parkersburg in October.

CARPER-LAIRD NUPTIALS

Dr. Thomas Kerr Laird, surgeon at Laird Memorial Hospital at Montgomery, was married on November 15 to Miss Ruth Lee Carper, of that city. The ceremony was performed at the home of the bride's parents, Mr. and Mrs. Harry Kenton Carper, at Pocahontas, Virginia.

Mrs. Laird is a graduate of the University of Virginia Hospital School of Nursing and at present is a member of the nursing staff at Laird Memorial Hospital.

SOUTHERN HOSPITAL COUNCIL

Representatives of hospitals in several southern states met informally at Cincinnati during the sessions of the Southern Medical Association in November and formed an organization to be known as "Southern Hospital Council."

The announced object of the organization is to provide an opportunity once a year for discussion of mutual problems by doctor and lay hospital managers and administrators in the south. Meetings will be held annually on the Sunday preceding the opening session of the Southern Medical Association.

A temporary organization was set up which includes Dr. R. J. Wilkinson, of Huntington, as chairman, and, Dr. Hamilton McKay, of Charlotte, North Carolina, secretary.

AMERICAN THERAPEUTIC ELECTS

At the 46th annual meeting of the American Therapeutic Society, held at Cincinnati, November 11-12, the following officers were elected: President, Dr. Joseph F. Borg, Minneapolis; first vice president, Dr. William B. Rawls, New York City; second vice president, Dr. Lucien A. Ledoux, New Orleans; and, third vice president, Dr. Nathan S. Davis, III, Chicago. Dr. Oscar B. Hunter, of Washington, D. C., and Dr. Daniel L. Sexton, of St. Louis, were reelected secretary and treasurer, respectively.

RELOCATIONS

Dr. W. W. Huffman, of Oak Hill, has moved to Gassaway.

* * *

Dr. H. A. Smith, of Huntington, has moved to Madison, where he is on the staff at Madison General Hospital.

* * *

Dr. Jacob S. Huffman, who has been engaged in general practice at Harman for the past two years, has moved to Dayton, Virginia.

* * *

Dr. Eugene S. Carter, Jr., secretary of Fayette County Medical Society, who has been engaged in industrial practice at Minden, has moved to Montgomery.

* * *

Dr. George O. Nelson, formerly of Boston, who has been in industrial practice at Radford, Virginia, has accepted appointment as full-time physician at the Nitro plant of the American Viscose Corporation.

DUES PAYABLE JANUARY 1

Annual dues of $15.00 are payable January 1, 1946, by members of the West Virginia State Medical Association and should be paid to secretaries or treasurers of component societies.

The increase in dues from ten to fifteen dollars was authorized by the House of Delegates at the annual meeting in Clarksburg last May.

The Council has directed that dues of returning medical veterans be waived for the consecutive year following their release from military service, and has recommended that local societies take similar action.

"GERIATRICS" DUE IN JANUARY

A new bi-monthly medical journal, Geriatrics, devoted to research and clinical reports on the processes and diseases of the aged and aging, will make its appearance in January, 1946. It will be published by Modern Medicine Publications, Minneapolis.

For some time the need for a journal of this type has been increasingly apparent. The market among patients of fifty and over is growing steadily. By 1975, it is estimated that 40% of our population will be in that group. Whatever information serves to increase the life span of the individual, whether a matter of diagnosis and treatment, surgical intervention or proper nutrition is very much in accord with the thinking of the times. The editorial direction of Geriatrics will stress the investigations and advances made in the study of geriatrics and report on the clinical applications of new developments.

The editor is Dr. A. E. Hedback, who has been the editor of Modern Medicine since its inception. The editorial board serving with Doctor Hedback consists of a group of distinguished medical authors and editors who are specialists in the field of geriatrics.

Doctors in the Service

Dr. Walter E Vest, Jr., of Huntington, who is assigned to the Station Hospital at Camp Chaffee, Fort Smith, Arkansas, has been promoted to the rank of Major.

* * *

Capt. George L Vieweg, of Wheeling has been released from military service and resumed private practice in that city. His offices are located at 2235 Chapline St.

* * *

Capt. William H. Allman, who was recently stationed at Newton D Baker Hospital, Martinsburg, has been given his honorable discharge and has resumed private practice at Clarksburg. He has opened offices at his former location in the Goff Building.

* * *

Major Harry E Baldock, who served two years in the Persian Gulf Theatre, has been discharged from military service and has resumed private practice at 416 Medical Arts Building, Charleston.

* * *

According to an AP dispatch, with a Martinsburg dateline, Commander Marvin H. Porterfield, who is now stationed in Bermuda, recently landed a 180-lb. tuna, reported to be the largest ever caught with a hook and line in the Bermuda area.

* * *

Five Charleston doctors, recently discharged from military service, have opened offices at 603 Atlas Building in that city. They are Drs. Bert Bradford, Jr., T. P. Mantz, John E. Lutz, and John C. Condry, surgeons, and Claude B. Smith, orthopedic surgeon.

* * *

Commander Vincent T. Churchman, of Charleston, who has been released from service in the Navy, has resumed his practice of EENT at 510 Medical Arts Building, in that city.

* * *

Lt. Colonel Wm. P. Bradford, recently discharged after service in the ETO, is now relocated at 800 Fifth Street in Moundsville.

* * *

Major Holmes Blair has been given his honorable discharge from the Army and will resume practice in his home city of Parkersburg within the next few weeks.

* * *

Two Morgantown doctors have recently been released from military service and resumed practice in that city. Captain John F. Stecker has offices in the Monongahela Building, and Captain Keith E. Gerchow is located at 157 Spruce Street.

* * *

Captain Richard N. O'Dell, who was engaged in industrial practice at Belle prior to his entrance into service, is on terminal leave and expects to locate somewhere in the Kanawha Valley. He served with a fighter squadron in the ETO.

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Capt. Raymond B. Nutter, Jr., of Lumberport, who has been assigned to the 45th General Hospital in the ETO, has been transferred to the 300th General Hospital, in Italy.

BACK HOME

Names of several West Virginia doctors who have been released from military service have been reported to the headquarters office of the West Virginia State Me ical Association since the November issue of the West Virginia Medical Journal went to press.

The following supplemental list was compiled as of November 19, 1945:

Ackerman, Capt. W. E., MC, Wheeling
Allman, Capt. William H., MC, Clarksburg
Ayers, Major L. R., MC, Beckley
Blair, Major Holmes, MC, Parkersburg
Bowyer, Capt. Arkie, MC, Elkview
Bradford, Lt. Col. Wm. P., MC, Moundsville
Brammer, Lt. Col. Fred E., MC,Dehue
Brown, Lt. Comdr. James R., (MC), USNR, Huntington.
Carney, Major Harry A., MC, Charleston
Churchman, Comdr. V. T., (MC) USNR, Charleston
Condry, Capt. R. J., (MC) USNR, Elkins
Crews, Capt. Howard R., MC, Huntington
Dobbs, Lt. Comdr. Lee F., Jr., (MC) USNR,
Evans, Lt. Col. George F., MC, Clarksburg
Gerchow, Capt. Keith E., MC, Morgantown
Graham, Capt. Paul V., MC, Wheeling
Haley, Capt. John B., MC, Charleston
Haley, Comdr. Peter A. II, (MC) USNR, Charleston
Haltom, Major Wm. L., MC, Martinsburg
Jarrett, Capt. Marion F., MC, Charleston
Johnson, Major Philip, MC Fairmont
Jones, Capt. Ralph J., MC, Charleston
Kessel, Major Ray, MC, Charleston
Little, Comdr. Harold G., (MC) USNR, Wheeling
McNeer, Major Buford W., MC, Hinton
Nicholson, Comdr. Berlin B., (MC), USNR, Parkersburg
O'Dell, Capt. Richard N., MC, Belle
Palmer, Capt. Glenn F., MC, Charleston
Pickett, Major Justus C., MC, Morgantown
Porterfield, Comdr. Marvin H., (MC), USNR, Martinsburg
Priddy, Major N. D., MC, Ravenswood
Roberts, Lt. Col. Donald R., MC, Elkins
Rusmisell, Lt (jg) J. A., Jr., (MC), USNR, Buckhannon
Scott, Capt. C. M., MC, Bluefield
Staats, Capt. Charles E., MC, Charleston
Soulsby, Major P. C., MC, Wheeling
Stecker, Capt. John F., MC, Morgantown
Taylor, Major I. Ewen, MC, Huntington
Todd, Capt. Gordon L., Jr., Princeton
Vieweg, Capt. George L., MC, Wheeling
Watkins, Capt. D. A., MC, Buckhannon
Wolverton, Capt. James H., Jr., MC, Piedmont

Capt. R. J. Condry (MC), USNR, of Elkins, is on terminal leave after service in a fleet hospital in the Pacific. He has seen four years service in the Navy and writes that "it's good to be home—a little strange beginning all over again, but I guess things will work out all right and I hope to see many of my old friends around the state before too long." Doctor Condry has opened offices in the Watts-Sartor-Lear Building in Elkins.

* * *

Capt. Glenn F. Palmer, of Charleston, is on terminal leave from the Army. He recently returned from service in the ETO, where he was assigned to an evacuation hospital. He will shortly resume civilian practice in Charleston, with offices at 1121 Virginia St.

Lieut. H. E. Muller, (MC), USN, of Huntington, has been looking forward for over three years to the time when he would be assigned to sea duty and at last the word came through, as he says, when everyone else was going home. The following letter was received from him early in November:

Somewhere in the Pacific
5 October, 1945

Dear Mr. Lively,

In September I sent in a change of address from San Diego. A few days afterwards they had me on my way overseas.

The first leg of the journey was by plane from San Diego to Hawaii. That was, relatively speaking, a lovely trip. Our plane was a C-54, and was very comfortably fitted out. It was really a smooth trip. In fact, it was considerably smoother and more comfortable than many a train trip I've had.

At Oahu, I joined the Marine Air Group, for which I am the flight surgeon. The officer I relieved was heading back to the States and that most desirable civilian life.

My group is carrier based. We expect to meet our own CVE carrier out here somewhere soon. At present, we are in transit on a carrier similar to the one we will join.

For three years I've been trying to get to sea. And now I've finaly made it, when everyone else is going home. Oh well, one consolation is that life abroad these days will be more comfortable, since they won't have to keep everything closed up and darkened.

Sincerely,
H. E. Muller.

* * *

Commenting upon the award by General H. H. Arnold, Commanding General of the AAF, of the Meritorious Service Unit Plaque, to the 25th AAF Base Unit (AAF Medical Service Training School) at Robins Field, Georgia, a recent release from the public relations bureau of the AAF has this to say concerning Major Carl B. Hall, of Red Jacket:

"Major Carl B. Hall, MC, a 1940 graduate of the Medical College of Virginia, and a former practicing physician at Red Jacket, West Virginia, has contributed much to the successful accomplishment of the school's mission. Formerly the Commanding Officer of the Air Technical Service Command Medical Training Unit, also located at Robins Field and working in conjunction with the AAF Medical Service Training School, he became Director of the Unit Training and Medical Field Development Department of the AAF Medical Service Training School when the latter absorbed the former.

"Major Hall has been instrumental in guiding and supervising the various units prepared by the school during their period of organization activity and in addition has been a competent instructor in medical department technical subjects."

* * *

Capt. W. W. Strange (MC), USNR, of Huntington, has sent us a brief history of the U. S. S. Solace, which has been his home in the Pacific since August, 1944. In the pamphlet there is printed a story of this famous hospital ship known to every bluejacket as the "Great White Ship," and it has also been named the "Work-horse of the Pacific."

Captain Strange is now serving as chief of surgery on the Solace and writes that copies of the Journal have been coming through regularly to him since V-J Day.

Lt. Col. Donald R. Roberts, of Elkins, is on terminal leave, and will take some postgraduate work in Philadelphia before resuming practice in Elkins the first of the year.

* * *

Lt. Comdr. W. R. Stevens, of Kimball, is now stationed in Manila. He is aboard the U. S. S. Clarendon and has written most interestingly concerning the landing of his unit in Yokohama. He writes that they are just back from Tsingtao, China, after landing units of the 6th Marine Division.

* * *

Major N. D. Priddy has been given his honorable discharge from the Army and has resumed civilian practice at Ravenswood.

* * *

Major W. L. Haltom, of Martinsburg, has been released from military service and has resumed practice in his home community. He is temporarily located in the offices of Dr. A. W. Armentrout, of that city.

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Lt. Col. Fred E. Brammer, MC, of Dehue, who has been chief of medicine of a general hospital in British Guiana for the past fourteen months, was recently released from military service and has resumed industrial practice in his home community.

* * *

Lt. Commander James R. Brown, of Huntington, who has been stationed at the Marine Corps Air Station at Cherry Point, N. C., was recently released from military service and will soon resume practice at the Wilkinson Surgical Clinic in that city.

* * *

Lt. Col. George F. Evans, who was assigned to the 32nd Station Hospital in the ETO, has returned home and is preparing to resume private practice in Clarksburg.

* * *

Captain Howard R. Crews, MC, of Huntington, former resident at the C & O Hospital in that city, who has been attached to the surgical section of an Army hospital train for over two years, has been released from service and plans to take postgraduate work before entering private practice.

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Major Justus C. Pickett, MC, who has been stationed at the Regional Station Hospital, Hunter Field, Georgia, has been released from service and has resumed practice at Morgantown. He has offices at 235 High Street.

* * *

Captain Charles E. Staats, MC, who served in Alaska and the Aleutians for over two years, and who was recently assigned to Lawson General Hospital, Atlanta, Georgia, has been released from service and resumed private practice at Staats Hospital, Charleston.

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Captain Ralph J. Jones, who has served in the Army Medical Corps for over three years, and who has seen service in the Aleutians and the ETO, recently returned to Charleston upon his release from military service, and will resume private practice in that city.

* * *

Major Spencer L. Bivens has recently completed a short course at Mayo Clinic and opened offices at 308 Medical Arts Building, Charleston.

Major Paul C. Soulsby, of Pratt, is on terminal leave from the Army. Recently he had been assigned to transport service between New York and the ETO. He expects to resume practice in the Charleston area in the near future.

* * *

Capt. Mendel W. Smith, of Bluefield, has been transferred from Laughlin Field, Del Rio, Texas, to Brooks Field in that state.

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Major Norman Friedman, of Longacre, who has seen service with the 37th Division in the Philippines, and who was awarded the D. S. C. in New Georgia, is on terminal leave and plans to locate in Cleveland, Ohio.

* * *

Major Harry A. Carney, of Charleston, who has been in the Army for five years, having served in the Canal Zone and the ETO, has been released from military service and accepted a residency in dermatology at a hospital in New York. At the completion of the residency he will take some postgraduate work at Cornell University and then return to Charleston for the practice of his profession.

* * *

Commander Marvin H. Porterfield (MC), USNR, who has been stationed at the U. S. Naval Operating Base in Bermuda, recently returned to his home in Martinsburg and has resumed civilian practice, with offices at 219 W. Burke Street.

* * *

Commander Berlin B. Nicholson (MC), USNR, has been released from service and resumed the practice of his specialty of urology at Parkersburg, with offices in the Union Trust Building. He has been in the service for over five years, having been assigned to hospitals at Norfolk and Portsmouth. He served for a short time as executive officer and regimental medical officer at the C. B. base at Camp Peary, Virginia. During the past year he was transferred to Camp Le Jeune, N. C. and thence to the west coast. His first overseas assignment was in Guam, after which he was chief of surgery at a corps evacuation hospital in Okinawa.

COMMITTEE ON SCIENTIFIC EXHIBIT

Dr. Hu C. Myers, of Philippi, again heads the committee on scientific exhibit. The appointment was made late in November by Dr. Andrew E. Amick, president elect of the State Medical Association, who at the same time named Dr. C. B. Wright, of Huntington,and Dr. Clement C. Fenton, of Morgantown, as members. This committee will have charge of the scientific exhibits at the annual three-day meeting at Huntington next May.

MRS. BEARD CONVENTION CHAIRMAN

Mrs. H. E. Beard, of Huntington, has been appointed convention chairman for the annual meeting of the Woman's Auxiliary to the West Virginia State Medical Association, which will be held in that city May 13-15, 1946. The appointment was made by Mrs. A. G. Rutherford, president of the auxiliary to the Cabell county medical society.
auxiliary to the Cabell county medical society. Mrs. U. G. McClure, of Charleston, is state president of the Woman's Auxiliary.

POSTWAR MEDICAL PRACTICE

One of the greatest compensations in the practice of medicine in the Army is the intimate association between the various specialties and the close cooperation that exists between the men within these specialties. Particularly is this true of neuropsychiatry. Throughout the military forces doctors work in groups and only with very few exceptions are they alone. More accurately, one may say they work in teams: hospital teams, dispensary teams, or regimental or divisional teams, which afford an intimate shoulder-to-shoulder relationship between the surgeon, the internist, the neuropsychiatrist, and all other specialties.

There is no doubt but that the neuropsychiatrist is learning much about medicine and surgery; likewise, the military situation is requiring that the internist and surgeon learn much about neuropsychiatry. We have no qualms in calling consultations; we are not afraid of losing our patients. We are interested in supporting our confreres. With fifty thousand physicians accustomed to and enjoying this opportunity and utilizing this method of group help over a period of two, three, or four years, it can be anticipated that there will be major repercussions in our subsequent civilian practice. It will be the wise civilian physician who, reading the handwriting on the wall, adjusts himself to this method and perhaps even modifies his own practice accordingly.—Col. Wm. C. Menninger, M. C., in J. Mich. St. Med. Soc.

MEDICAL LEADERSHIP

Improvements in the field of public health during the past quarter of a century have been little short of miraculous. These results have been accomplished with rather poorly organized and improperly integrated public health services. As a result of organized community action, typhoid fever, iliocolitis, diphtheria and whooping cough have, for all practical purposes, been eliminated as major public health problems. Great progress has been made by organized effort toward reducing the morbidity and mortality rates from tuberculosis. With recently developed methods of case-findings, and expected improvement in treatment facilities and technics, this disease should within the not distant future cease to be a major public health problem.

Pneumonia, the captain of the men of death, bids fair to yield its death-dealing hold on the human family, as a result of the march of science, with its chemical weapons of action.

Recent statistics released by the Bureau of the Census show that the general death rate for the United States for the year 1942 reached a new low of 10.3, and that the infant and maternal death rates for the same year were the lowest in history. All these results have been accomplished by organized community effort, fostered and promoted by public health agencies, both official and unofficial, and participated in very actively by members of the organized medical and allied professions. It may be stated parenthetically that any public health program, to be eminently successful, must be actively supported by the medical and allied professions.—C. C. Applewhite, M. D., in The Journal-Lancet.

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ALCOHOLICS AND WILL POWER

The one common factor of all the therapeutics of alcohol addiction is embodied in the statement which is made by all therapists. The patient must have the desire to be treated. He must wish to get well. He must be willing to cooperate. To these factors I should add the one which I have just discussed and which I think is equally important: He must believe that he can get well. Again, in this last respect the lay therapist who is an ex-alcoholic has a particular advantage; he not only speaks the alcoholic's language and knows his feelings, but he has been through it all himself and is there as a tangible example of the possibility of recovery.

It may be that whatever method is used, if this will is present, if the desire to be free of alcohol addiction has reached that point of burning heat which James calls "conversion," it does not matter much whether benzedrine sulfate, which makes one feel good, or wine of ipecac, which makes one vomit, is utilized; it is of relatively little importance whether an exhorter does the trick by firing zeal through the fear of God or the friendly greeter of Alcoholics Anonymous is the agent of reform. The alkaloid strychnine will work as well, and no better, than the hormone insulin. In other words, the essential of all these therapeutic measures seems to be to enlist the cooperation of the patient, to galvanize his will, to bring about his conversion rather than to use any one specific measure.—Abraham Myerson, M. D., as quoted by Howard W. Haggard in Bull. N. Y. Academy of Med.

County Society News

FAYETTE

At the regular monthly meeting of the Fayette County Medical Society, held at Oak Hill, October 9, a resolution was adopted in which the view is expressed that all physicians who in any way furnish medical care in cases of injuries classed as compensable should receive payment for their services as provided by statute.

Eugene S. Carter, Jr.
Secretary

* * *

KANAWHA

Dr. Temple Fay, of Philadelphia, international authority on neurology and neurosurgery, was the guest speaker at the regular monthly meeting of Kanawha Medical Society, held at the Daniel Boone Hotel, November 13. His subject was "Observations on the Rehabilitation of Movement in Cerebral Palsy Problems." His presentation of differential diagnosis and rehabilitation was very interesting and instructive to all the members present.

At the business meeting following the scientific program, the following officers were elected for 1946:

President, Dr. George F. Grisinger; Vice president, Dr. Spencer L. Bivens; Secretary-Treasurer, Dr. T. Paul Mantz; and Member Board of Censors, Dr. Claude B. Smith.

Dr. John C. Condry and Dr. Harold H Kuhn, both of Charleston, were elected to membership in the society.

W. Paul Elkin, M. D.,
Secretary

* * *

MERCER

Capt. W. C. Dine, MC, and Lieut. Jesse E. Thompson, MC, of the Ashford General Hospital staff, were guest speakers at the regular meeting of the Mercer County Medical Society, held at the West Virginian Hotel, in Bluefield, November 15. Captain Dine spoke on the subject of "Medical Evaluation of Hypertensive Patients for Sympathectomy." Lieutenant Thompson's subject was "Operative Technique of Sympathectomy for Hypertension." Both papers were well presented and were discussed by several members of the society.

At a business meeting following the scientific program, Associated Hospitals, Inc., was authorized to sponsor a surgical-obstetrical prepayment service plan.

The society voted unanimously to waive dues of returning medical veterans for the consecutive year following their release from military service. This is in line with the recommendation of the Council of the State Medical Association, which previously voted to waive Association dues of the veterans for a similar period.

Dr. F. C. Goodall, president of the society, appointed the following committee to aid returning medical veterans: Dr. Harry G. Steele, chairman; and Drs. Wade H. St. Clair, G. L. Todd, and B. S. Clements.

FRANK J. HOLROYD, M. D.,
Secretary.

MONONGALIA

A joint dinner meeting of the medical and dental societies of Monongalia County was held at the Hotel Morgan, at Morgantown, November 6, at 6:00 P. M. Dr. H. V. King, M. D., discussed "Contact Points in Otolaryngology," and Dr. N. J. Barnard, D. D. S., spoke on the subject of "The Relationship of General Medicine to Dentistry."

MARGARET STEMPLE, M. D.,
Secretary.

* * *

OHIO

Dr. Floyd H. Bragdon, head of the Department of Neurological Surgery, Mercy Hospital, Pittsburgh, spoke on "Diagnosis and Treatment of Spinal Cord Injuries" at the regular monthly meeting of the Ohio County Medical Society held October 26 at the McLure Hotel, in Wheeling.

The society unanimously approved the recommendation of the Publicity Committee of the State Medical Association with reference to the insertion of announcements in local newspapers concerning the return to practice of members who have been serving with the armed forces.

Dr. Paul V. Graham and Dr. James E. Spargo, both of Wheeling, were elected to membership in the society. Dr Spargo was recently released from military service and Dr. Graham will probably return from active duty early in the year.

Dr. S. F. Marshall, of the surgical staff of the Lahey Clinic, Boston, was the guest speaker at a dinner meeting of the Ohio County Medical Society, held at the McLure Hotel, in Wheeling, November 16. Doctor Marshall spoke on the subject of "Surgical Treatment of Diseases of the Biliary Tract." He covered the subject in his usual thorough manner, including a preliminary review of the anatomy and physiology of the subject.

D. E. GREENELTCH, M. D.
Secretary.

* * *

PARKERSBURG ACADEMY

At the November meeting of the Academy of Medicine of Parkersburg, Dr. Joseph de Lor, of the College of Medicine, Ohio State University, discussed the drug, "Sorporin." He discussed particularly its effects on Plasma Prothrombin and on the Glucose Tolerance Mechanism.

At the business meeting following the scientific session, Dr. Elliott L. Thrasher of Sistersville was elected to membership in the society.

W. F. ROGERS, M. D.,
Secretary.

RALEIGH

Major John W. Whitlock, of Amigo, recently returned from military service, was the guest speaker at the regular monthly meeting of the Raleigh County Medical Society, held at the Beckley Hotel, at Beckley, October 25. Major Whitlock spoke most entertainingly concerning his experiences while serving with the armed forces.

At a business session following the scientific program, Drs. Robert Wriston, of Beckley, and R. C. Mitchell, of Sabine, were unanimously elected honorary life members of the society.

W. H. RARDIN, M. D.,
Secretary.

Woman's Auxiliary

HARRISON COUNTY

At the regular monthly dinner meeting of the Woman's Auxiliary to the Harrison County Medical Society, held at the Gore Hotel, November 1, the subject of public health and welfare was stressed. Mrs. A. J. Kemper was in charge of the program. The auxiliary voted unanimously to follow the lead of the state and national auxiliaries with reference to waiving dues of the wives of doctors serving with the armed forces.

Mrs. R. B. Linger and Mrs. D. P. Cruikshank submitted reports from "Hygeia." A number of new subscriptions were received for the magazine. The meeting was attended by 21 members.

MRS. D. P. CRUIKSHANK,
Publicity Chairman.

* * *

RALEIGH COUNTY

Dr. Wade H. Rardin, of Beckley, was the guest speaker at the regular monthly meeting of the Woman's Auxiliary to the Raleigh County Medical Society, held at the Beckley Hotel, October 15. He spoke on the subject of penicillin. Mrs. Thomas U. Vermillion presided as chairman at the meeting, which was attended by 18 members and three guests.

MRS. L. M. HALLORAN,
Corresponding Secretary.

MVMC ESSAY CONTEST

The Mississippi Valley Medical Society is resuming its annual Essay Contest which has not been held during the war. In 1946 it offers a cash prize of $100.00, a gold medal, and a certificate of award for the best unpublished essay on any subject of general medical interest (including medical economics) and practical value to the general practitioner of medicine. Contestants must be members of the American Medical Association who are residents of the United States.

The winner will be invited to present his contribution before the next annual meeting of the Mississippi Valley Medical Society to be held at St. Louis, Mo., September 25, 26, 27, 1946, the Society reserving the exclusive right to first publish the essay in its official publication—the MISSISSIPPI VALLEY MEDICAL JOURNAL (incorporating the RADIOLOGIC REVIEW). All contributions must not exceed 5000 words, be typewritten in English in manuscript form, submitted in five copies and must be received not later than May 1, 1946.

Further details may be secured from Harold Swanberg, M. D., Secretary, Mississippi Valley Medical Society, 209-224 W. C. U. Building, Quincy, Illinois.

QUICK WORK NEEDED

Chances of reviving a person after primary respiratory failure are 100 per cent if respiration has just ceased; 97 per cent if it has stopped one minute; 92 per cent at two minutes; 75 per cent at three minutes; 50 per cent at four and 25 per cent at five minutes—W. S. R. in Detroit Medical News.

Obituaries

ALFRED CHARLES TAYLOR, M. D.

Dr. Alfred Charles Taylor, 67, of Mona, died in a Morgantown hospital, October 25, as the result of a cerebral hemorrhage. He had been ill since June, when he retired from active practice.

Doctor Taylor was born at Medley, in Grant County, and received his academic training at West Virginia Conference Seminary (now Wesleyan College), Buckhannon, and West Virginia University at Morgantown. He received his M.D. degree at the College of Medicine and Surgery, Chicago, in 1916, and was licensed in West Virginia the same year. He had practiced in Morgantown for over 28 years, and taught chemistry to students at Heiskell Memorial Hospital for over 14 years. He is survived by his wife and one brother. He was a member of the Monongalia County Medical Society, the West Virginia State Medical Association and the American Medical Association.

* * *

CHARLES ALPHONS WINGERTER, M. D.

Dr Charles Alphons Wingerter, 80, of Wheeling, died at his home in that city, November 2, 1945, following a stroke suffered on October 31.

Dr. Wingerter was born in Wheeling, December 7, 1865, son of the late Charles and Elizabeth Wingerter. He attended parochial schools and St. Vincent's High School at Wheeling, St Mary's College at Montreal, and Fordham University, New York, receiving the degree of A. B. in 1887, A. M. in 1892, and LL. D. in 1909. He received his M. D. degree from Bellevue Hospital Medical College of New York City in 1894.

Dr. Wingerter was always active in the affairs of his local society, having served as president, and in 1911 he was elevated to the presidency of the West Virginia State Medical Association. He contributed articles for publication in various journals and magazines, and was the author of the "History of Greater Wheeling and Vicinity," published in 1912. His "Development of Medical Practice and Public Health" was published in 1913 in the "Semi-Centenial History of West Virginia." He was instrumental in organizing the Knights of Columbus in West Virginia.

After 18 years in general practice, Dr. Wingerter studied neuro-psychiatry under Sir Henry Head and Sir Gordon Holmes, of London; Dr. A Knauer, of Munich; Dr. Carl Jung, of Zurich; and Dr. William A. White, Washington, D. C. He practiced this specialty until his retirement several years ago. During World War I, Dr. Wingerter, with the rank of Major in the medical corps, served as neuro-psychiatrist at Camp Hancock, Georgia. He had been an honorary member of the American Medical Association and his local and state societies for many years.

CANCER OF THE TONGUE

Cancer of the tongue causes more deaths than any other malignant growth in the oral cavity and, therefore, it is the most important tumor in the group of oral cancers. It is more prevalent in the male in the ratio of 7 to 1.

The greatest incidence is in the age group from 55 to 64. It can, however, occur in the very young. Topographically, it is most commonly seen on the lateral border of the middle third of the tongue (58 per cent), with the base of the tongue next in frequency (33 per cent,. The anterior third of the tongue accounts for 9 per cent and the undersurface of the tip of the tongue for 4 per cent.

As in other forms of cancer of the oral cavity proper, chronic irritation is an outstanding etiologic factor in cancer of the middle and anterior thirds of the tongue. In these areas such precancerous changes as chronic, diffuse, or localized glossitis and leukoplakia most often occur. At the base of the tongue tissue changes as a result of a chronic irritation are less definite.

The incidence of syphilis in cancer of the tongue is usually reported to be between 30 and 40 per cent. This factor is very significant, and undoubtedly the chronic glossitis characteristic of late syphilis is an immediate etiologic factor. The etiologic significance of syphilitic glossitis probably lies mainly in its chronicity and its frequency. Multiple primary cancers within the tongue are frequently encountered in a syphilitic tongue.

The association of direct dental trauma with cancer of the tongue is quite apparent in selected instances. The most obvious form of dental irritation regarded as a causative factor is the presence of a sharp, broken or worn tooth, or an ill-fitting denture directly in contact with a carcinomatous ulceration. In only about 10 per cent of the patients with tongue cancers the teeth are found to be in good repair and there is good oral hygiene.

Tobacco apparently is of no significance in cancer of the tongue. Prior to the smoking fad which has swept our female population in recent years, about 75 per cent of the males and 9 per cent of the females admitted smoking. On the basis of these figures in non-smokers of both sexes it is still twice as frequent in the male as in the female. Study of the incidence of cancer of the tongue in women in the next decade or two may reveal startling observations about the importance of tobacco in cancer.

In general, a lingual cancer tends to be practically symptomless in its early stages. The most common first symptom is usually the presence of a metastatic lymph node. This is recorded in about 50 per cent of the cases that have been studied and reported. In the anterior two-thirds of the tongue the growth is usually discovered by tactile sense as irregularity, roughening, or ulceration of the mucosa. Occasionally pain is the first symptom in cancer of the tongue, but it is remarkable that this symptom is not complained of more often since most benign ulcerated lesions of the tongue are painful.

The incidence of metastases on admission is about 35 per cent. An additional 25 per cent subsequently develop metastases, making a total of about 60 per cent having metastases some time during the course of their disease.—J. V. B. in Pa. Med. J.

VALUE OF SLEEP

The physician has a daily demonstration of the almost magic effect of sleep and values it highly as a prime essential in man's physical and mental well-being. Sleep is the state in which healing and recuperation proceed at their highest rate, and during the period of growth it provides opportunity for this process to go on simultaneously with recuperation which makes up for the wear and tear of the day's activities.

Plants and animals require sleep for their growth and development. Knowing all of this, the physician himself often neglects to put into use this valuable therapeutic aid, although he strongly advises his patients as to its absolute necessity. Unfortunately the physician does not always practice all he preaches, even though he is convinced of the great healing powers that lie in the procedures he so strongly advocates. He does not take the necessary time.

The true physician thinks first of his patient's needs and the service he can render in meeting these needs. This is often knowingly done at the sacrifice of his own interest and health, but that is the price which the sons of Aesculapius willingly pay in the practice of their noble profession.—J. Med. Soc. of N. J.

LIFE EXPECTANCY

The conservation of human life, by measures designed to be beneficial to the public health, was inaugurated about the second decade of the present century. With it came the realization that a community could determine, within certain limits, its own mortality rate. Since then, there has been a steady prolongation of human life which stands as a tribute to man's effort to control and improve his environment. Consequently, this remodeling of our national life and the great strides in preventive medicine have made the world a safer place in which to live.

How grimly ironical this sounds at the present time. This has been achieved by a continuous and a systematic fight against prejudice and ignorance, which have always been common factors that have impeded progress in every field since the world began. Disheartening obstacles had to be overcome in order to effect the general application of measures for controling and preventing diseases found to be the cause of so many deaths in early life.

Education of the public in the adoption of sanitary measures, promulgated for their welfare, were slow, and at the time disheartening, but the courage and determination of so many physicians, who have dedicated their lives to this work, have been vindicated and rewarded by an increase in life expectancy which seems, finally, to have attained the traditional span of three score years and ten.—International Med. Dig.

USA BEST-INSURED NATION

During the past 10 or 15 years a vast propaganda has swept the country in an endeavor to bring about a change in the system of medical service leading to the adoption of some nationwide plan for compulsory sickness insurance, with the ultimate establishment of complete medical service under government control.

This movement began with the report of the Committee on the Costs of Medical Care, and of the Commission on Medical Education. These reports were followed by the American Foundation Studies in Government, the National Health Survey, the National Health Program, and finally the Murray-Wagner-Dingell Bill.

To meet the increased costs of medical care, the medical profession sponsored various plans under the supervision of either the county medical society or the state medical society, which is another example of the fact that the medical profession is not static, that it is cognizant of the problem, and is willing to meet it with its own plans. The insurance companies and industry are keenly interested and many plans are now in operation.

The people of this country are the best and most extensively insured nation in the world. Every conceivable type of insurance from life to clothing is carried. This is the result of education. The people of this country can be educated to insure themselves against sickness and hospital costs just as they have been to carry many other types of insurance.

To provide for protection against illness is, I believe, the privilege of the citizen. I do not believe that the people of this country are so incompetent that the government must do this for them. It seems to me that the statement that they cannot do it, that they are incompetent to do it, therefore the government must do it for them, is not in keeping with the facts.—Herman L. Kretschmer, M. D., in Southern Medical Journal.

DIET AND CHANGE IN WEIGHT

There is a persistent popular belief that some individuals gain in weight although they eat very little in comparison with energy expenditure, while others fail to gain despite a more than adequate food consumption. The facts, however, are to the contrary. It has become more and more certain that gain or loss in weight is determined over long periods solely by the relationship of caloric intake to caloric output. The search for a metabolic abnormality to explain obesity has been conspicuously unsuccessful. Careful investigations have shown that obese individuals have a total heat production which is even greater than normal and that they must, therefore, eat more than normal individuals merely to avoid loss of weight. It has been shown, further, that patients suffering from "endocrine" obesity consume amazingly large quantities of food exactly as do patients with obesity ascribed to other causes.

The relationship of calory surplus or deficit to weight gain or loss does not necessarily hold for short term experiments.—Nutrition Reviews.

That would throw the practice of medicine into politics and waste the people's money.—Cleveland Thompson, M. D., in J. Med. Assn. of Georgia.

THE STATE'S OBLIGATION

It is the obligation of the state to provide adequate medical and surgical care for all of its citizens who are not able to provide for themselves. This is the best policy from the economic as well as from the altruistic viewpoint. It is not the function of the federal government to provide this care through the creation of an enormous bureaucracy.

FOR CONSTIPATION DUE TO MEDICATION...

You know only too well that a number of useful, necessary medications may induce constipation as an unfortunate by-product. The normal cycle of bowel evacuations is thrown off schedule.

Petrogalar gently, persistently, *safely* helps to establish "habit time" for bowel movement. It is evenly disseminated throughout the bowel, effectively penetrating and softening hard, dry feces, resulting in comfortable elimination with no straining . . . no discomfort. Petrogalar to be used only as directed.

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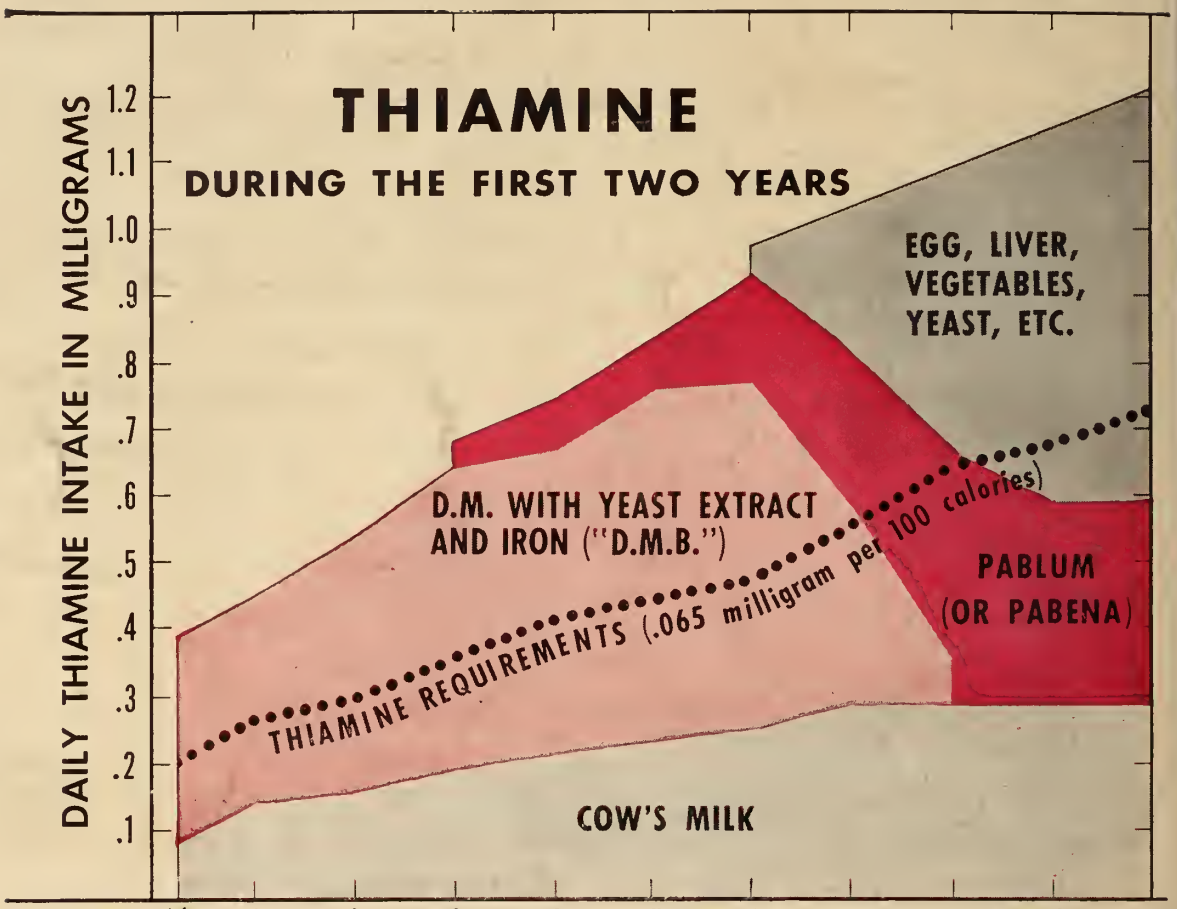

AGE, Mos.	¼	1	2	3	4	5	6	9	12	18	24
WEIGHT, Lbs.	7	9	10	12	14	15	16	19	22	23	25
MILK, Oz.	10	16	18	21	24	26	28	32	32	32	32
"D.M.B.," Oz.	1	1	1¼	1½	1½	1¾	1¾	1	¼	0	0
PABLUM, Oz.	0	0	0	⅛	¼	¼	½	¾	1	1	1

THIAMINE DURING THE FIRST TWO YEARS

Thiamine functions as a component of a cellular respiratory enzyme system, and is necessary for the complete combustion of carbohydrate. Complete thiamine deficiency eventually results in beriberi, which happily is seldom seen in America. However, authorities agree that partial thiamine deficiency in this country is widespread.

In clinical practice, it is desirable to allow a liberal margin of safety over calculated requirements. The chart shows that this safety factor may be assured when the carbohydrate is "D.M.B." and the cereal is either Pablum or Pabena.

PSYCHIATRIC NUMBER

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Psychiatric Committee

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BY INJECTION

subcutaneously or intramuscularly, ADRENALIN provides rapid symptomatic relief in asthmatic paroxysms; is useful in the prevention and treatment of other allergic reactions; localizes and prolongs the action of local anesthetics. Intravenously, it is used in shock and anesthesia accidents.

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for its vasoconstrictor action in hemorrhage, ADRENALIN permits better visualization of the field, and aids in the diagnosis and treatment of certain conditions encountered in ear, nose and throat practice.

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into the nasal passage, ADRENALIN produces prompt decongestion; in the eye ADRENALIN decreases vascular congestion, and aids in the location of foreign bodies.

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Penicillin is the best agent available for the treatment of this devastating disease. Although in a few instances it may be desirable to use the continuous intravenous route, intramuscular injection is the one of choice. If best results are to be obtained 200,000 to 300,000 units should be given daily for three weeks or longer. (Keefer, C. S. et al.: New Dosage Forms of Penicillin, J. A. M. A. 128:1161, Aug. 18, 1945.)

Bristol Penicillin, because of its low toxicity and freedom from pyrogens, as well as its absolute sterility and standard potency, provides dependable therapeutic action.

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IT DOES HAPPEN HERE

Severe rickets still occurs — even in sunny climates

Vitamin D has become such an accepted practice in infant feeding that it is easy to think that rickets has been eradicated. However, even deforming rickets is still seen, as witness the above three contemporary cases from three different sections of the United States, two of them having well above the average annual sunshine hours for the country. In no case had any antiricketic been given during the first two years of life. *It is apparent that sunlight did not prevent rickets.* In other cases of rickets, cod liver oil was given inadequately (drop dosage) and even this was continued only during the winter months.

To combat rickets simply, inexpensively, effectively —

OLEUM PERCOMORPHUM

This highly potent source of natural vitamins A and D, if administered regularly from the first weeks of life, will not only prevent such visible stigmata of rickets as pictured above, but also many other less apparent skeletal defects that might interfere with good health. What parent would not gladly pay for this protection! And yet the average prophylactic dose of Oleum Percomorphum costs less than one cent a day. Moreover, since the dosage of this product is measured in drops, it is easy to administer Oleum Percomorphum and babies take it willingly. Thus there is assurance that vitamin D will be administered *regularly.*

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Oleum Percomorphum 50% is now known as Oleum Percomorphum With Other Fish Liver Oils And Viosterol. A source of vitamins A and D in which not more than 50% of the vitamin D is derived from viosterol. The potency remains the same; namely, 60,000 vitamin A units and 8,500 vitamin D units per gram.

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